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## CONTROLLING CONCEPTIONS IN SYNTACTICAL STUDY.

My purpose in the present paper is to set before you certain conceptions of the nature of the early stages of that parent speech from which the various Indo-European languages have come down; or, to put it more simply, I want to sketch certain probable aspects of the way in which our earliest articulating ancestors talked, and to show how, in the light of these conceptions, we ought to approach syntactical problems.

The more we know of man, the more we incline to believe that he sprang from a very lowly beginning, and spent a long time in reaching the lofty station which is disclosed in the earliest literatures. His first attempts at speech must have been of a very simple and very rude nature.

The earliest perceptions which he would have and would feel the need of expressing must have been those of the senses.<sup>1</sup> He would see things in their various *places*, or changes of place; he would see physical acts; he would hear sounds; he would smell odors. These things formed the drama of his daily life. The earliest relations which he would express between things, would, therefore, be likely to be *space*-relations. It follows that most of the cases, if not all, must originally have expressed rela-

<sup>1</sup> He may, of course, have advanced somewhat beyond this stage before he reached articulate speech at all; but these perceptions must have formed the larger part of what he at first had to convey.

tions in space. His earliest nouns must have expressed things touched, seen, etc. His earliest verbs must have denoted physical activity, *e. g.*, *seizing, carrying, striking, hearing, smelling*, etc. As for the force of his earliest verb-form, it probably expressed merely action or state, together with the idea of person, and with no differentiation of mood or tense. For it is altogether likely that the first distinctions of which he would feel the need in his verb-forms were those of person;<sup>1</sup> and it is also quite impossible to believe that a fully developed system of moods and tenses sprang into existence all at once.

Now do the facts of language, as we find them, agree with this statement of probabilities, or do they contradict it?

With regard to three of the cases of the parent speech, there can be no doubt that the facts agree. In various languages we find, for example, that the (true) ablative is used to express the idea of separation, whether this be separation in space, as with *exeo*, or only a figurative separation as with *careo*. We are forced, then, to one of two conclusions: either the mechanism originally expressed separation in space, and was afterward applied to express that vaguer kind of separation which we call figurative, or the first conception was wholly figurative, and the conception of separation in space arose out of this. No one can hesitate between these two conceptions. Similarly, we cannot doubt that the Latin ablative, as used with the preposition *in*, goes back to a true locative force, and that such a type as *in castris est*, "he is in the camp," represents an earlier stage than *magna in spe sum*, "I am in great hopes" (Cic. *Att.* 6, 2, 6).

Again, as one studies the relations of meanings in various words in various languages, one finds, perhaps, an expression of an intangible, immaterial thing in a given word, while another word of the same root indicates a tangible thing, or a physical act. Thus *namas* in Sanskrit means "honor," "reverence." The corresponding verb *nam* likewise means "to honor," "to reverence," but it also means "to bend," "to yield," or "to incline

<sup>1</sup>It seems to be clearly established that, in the Semitic languages, the verb is made up of a noun and a personal ending (*cf.* English "boat," "I boat," "you boat," etc.)

toward with affection." Clearly the root in its earliest meaning denoted simply the physical act of *bending*. Our English words and phrases "condescend," "stoop to," "lower one's self to," have evidently had a parallel history. Examples seen both in English and Latin are "fall" or "go down" in the sense of "become impaired," as in "credit has gone down," and Cicero's *fides concidit*, "burn" in the sense of "be eager," as in "burns with curiosity," and the Latin *ardet abire fuga*, etc., etc. The tendency of modern workers accordingly is to seek origins, as far as possible, in *sense-conceptions*, even when studying words apparently so far from sense-meanings as the Latin *volo*, English "will," and the like.

As for the earliest mechanism of the verb, relics of it seem still to be scattered about in the languages descended from the parent speech. Here I touch upon matters not quite so evident, and upon which there has not yet been serious reflection. One recalls at once, however, such expressions as *priusquam respondeo* "before I answer" (Cic. *Phil.* 2, 1, 3), and recognizes that substantially the same idea is conveyed by this as by *priusquam respondeam*, with the subjunctive. One recalls such expressions as *si permanent*, "if they remain" (Cic. *Cat.* 2, 5, 11), and remembers that, in the same oration of Cicero, the same idea is expressed later by *si permanebunt*, the future indicative (Cic. *Cat.* 2, 8, 18). English and German also have these idioms. We say, *e. g.*: "Before this happens, we must do so and so," "If this happens," we shall we ruined, and the like. These are only a few instances of constructions found in greater or less degree in Sanskrit, Latin, English, German, and other languages of our family. The grammars generally say little about them, and, when they do say anything, endeavor to treat this so-called present indicative as really expressing something *as good as now going on*, that is, as only a modification of the true present indicative. Such a treatment is at variance with the facts. When Dido, for example, says: "But I should wish the depths of earth to yawn for me before I wrong thee, Modesty," *ante, Pudor, quam te violo* (*Aen.* 4, 24), her feeling is that of strong aversion, and not that the wrong is as good as done. This is

only one of a great many instances in which grammarians and editors have started with a certain conception and forced all the facts to accommodate themselves to this conception.

Let me now, in the light of these general considerations, rapidly sketch what seems to me to have been in all probability the earliest force of the cases and the general character of the later developments.

Of the eight cases of the parent speech, one, as is generally agreed, expressed simply the name, and was therefore rightly called the nominative. Relics of this earliest use, in which it did not yet express the subject, are to be found in various languages. Nepos, for instance, is very fond of beginning his "Lives" with the name of the person, in what we call the nominative case. This done, he may perhaps go on with *hic, huius, in hoc, or de hoc*. The nominative form really means nothing but the name. Instances are also to be found in Greek. They are common enough in English likewise, in the conversational style, or imitations of it. You will recall from Lowell's *Biglow Papers* the lines :

But John P.  
Robinson he  
Says that is his view o' the thing to a "T."

The third person singular of the verb in our family of languages shows traces, in its termination, of a personal pronoun. This in the beginning was the subject of the verb, while the nominative was the mere naming-case (as in "John P. Robinson, he says"). But the pronoun in time became an indistinguishable part of the verb, and so ceased to be felt as a pronoun at all. This left the nominative in the position of *subject* to the verb (as in "John P. Robinson says").

The question of the earliest force of the genitive is a very difficult one. It may have expressed simply the conception of possession, which conception may originally have included the partitive idea, as in *multi Romanorum*, "many belonging to the Romans," that is, "many of the Romans." On the other hand, there are certain uses which hint at some conception of space-relation as having been the earliest meaning, as, *e. g.*, the Greek



*αὐτοῦ*, "there." Let us pass this case by, however, since I have no new light to throw upon its history.

Of the remaining cases, dative, accusative, true ablative, locative, and instrumental, three clearly express or involve space-relation. These are the true ablative, which expresses separation in space; the locative, which expresses location in space; and the instrumental, which originally expressed association in space, and ought, from every point of view, to have been named the sociative (the idea of instrument, which has given it its name of "instrumental," being only a secondary and derivative one).

There remain two extremely important and constantly recurring space conceptions, namely that of *motion toward something*, and that of *contact*, with the closely related conception of *neighborhood*; and there remain two cases, the dative and the accusative. It is extremely probably that these two cases expressed these two meanings. But which expressed direction in space, and which expressed contact or neighborhood?

The actual forces of the accusative may be grouped under three heads. The case may express (1) the direct object of an active verb; or (2) space-relation, which may or may not be the relation of motion (for example, *in castra*, "to the camp," but also *ante castra*, in "front of the camp"); and (3) respect, as seen in a great number of instances in Greek, and occasionally in Sanskrit, Latin, etc. Now, no theory as yet exists that will satisfactorily connect all of these forces. If you start with the theory that the accusative originally expressed the end of motion, you can possibly account for the accusative of the direct object as arising out of the conception of that upon which activity is directed; but you will find it hard to account for the accusative of respect, and quite impossible to account for the accusative with prepositions that contain no suggestion of motion. If you start with the idea of the direct object, it is hard to get to the construction after a preposition implying motion, and still harder to get to the construction after a preposition that has no implication of motion in it. As for beginning with the construction of respect, no one has yet ventured upon that.

The accusative, then, remains a dark case. The most modern

tendency is to regard it as the case which took upon itself all the functions which the other cases did not possess (thus Gädecke and Delbrück). This seems to me merely a solution of despair. It is extremely improbable that the rude ancestor into whose life we have been endeavoring to enter had such vague conceptions to express by cases as to make any one of them the general catch-all for relations not otherwise provided for. It is probable, on the contrary, that his conceptions were of a very definite and simple kind. We ought, therefore, in the light of what we have seen, to look for a simple and definite conception; and this should be one of *space*. As already noted, it cannot be that of direction in space; for such an original meaning could not have given rise to all the actual uses which we find. We are thus brought, by exclusion, to the hypothesis of an original force of contact, with its closely allied conception of neighborhood.

Let us see, now, what would naturally happen to the case if it began with this meaning. Our rude ancestors, if they wanted to express ideas of contact or neighborhood, such as we express by prepositions, would have had to be content with the bare case alone. But then everybody would agree that they had to be content with bare cases for *all kinds* of space-relations; for it is an accepted theory, borne out by abundant facts, that prepositions are nothing but adverbs that have taken on a new power of expressing relation, and that these adverbs were originally, at least in large part, nothing but cases themselves. We must be content, then, to let our primitive man talk in a very rude way. If he wanted to say, when the family went to bed for the night, "push the rock against the door," he would simply say something like "push rock door"—and none of his children would be likely to misunderstand him. If his cave were attacked, and he wanted to organize a defense, he would not be able to say "stand beside the door," but would simply say "stand door," and again would be understood. The next stage would consist in the rise of adverbs to indicate more exactly the relations that had been vaguely indicated before. At a certain point, then, one could say "stand door, behind," "stand door, in

front," etc. But these adverbs would now seem to indicate more precisely the *relation between* the verb and the noun. They would therefore seem to *introduce* the noun, and would accordingly be put before it, whence the name of "preposition." In such ways, with the help of prepositions, the accusative became the case which could express any of the space-relations. Naturally, it did not, in any large degree, invade the relations already provided for by the ablative, the locative and the sociative cases, though even here there is just enough confusion to make the above theory very probable. So, for instance, you find *post*, "behind," "after," governing the accusative in Latin, while in the Oscan and Umbrian dialects, the close relatives of Latin, it takes the ablative—doubtless of the point of view *from which* one starts in estimating the space-relation (compare *pro*, "in front," which, though one would expect it to take the same case as *ante* and *post*, takes the ablative of the point of view from which. The case in Latin *postea*, *posthac*, etc., may be due to the same reason). In the main, however, the true ablative, the sociative, and the locative cases keep their own territory to themselves.

The second power of the accusative, that of expressing the direct object, arose in a very simple and wholly inevitable way from combinations of accusatives with active verbs of contact, as in "push the stone," "strike the man," and the like. That which originally expressed the object of *physical contact* came to seem to express the object of the *activity*. This feeling would also rapidly grow, as words took on figurative meanings, as in the case of *urgeo*, "push," "urge," "prompt," "incite," "burden," etc.

The third force, the apparently mysterious one of respect, is probably of extremely simple origin. The accusative simply indicates that upon which the thought *touches*. Surely this should not be regarded as a difficult or improbable solution, if one bears in mind that, in the St. James translation of the Bible, the phrase "touching," or "as touching" occurs twenty-six times in the sense of "as regards," and is used interchangeably with the latter phrase, for example in *Romans 11:28*, "as concerning the gospel, they are enemies for your sakes; but as touching the elec-

tion, they are beloved for the father's sakes." Even today, indeed, one often hears the same phrase in the same sense; and the corresponding "touchant" is common in French with the same meaning.

A wholly satisfactory explanation, then, of the three great families of relations expressed by the accusative seems to be afforded by the theory which I have advanced, that it originally expressed one of the most important space-conceptions. But the theory receives additional support from the perfect way in which the dative meets the requirements for the remaining leading space-relation, that of direction in space. This case is found in actual literature to have two forces, that of literal direction, as in Virgil's "rises to the heavens," and that of figurative direction, as in "gives to the poor," "kind to his neighbors," and the like. The literal force still appears with great frequency in our earliest Greek documents, the Homeric poems. It maintains itself in Latin prose (perhaps with a slight shading toward the idea of the indirect object, which was developed out of it), after *fero* and *mitto* (thus *ad te mitto* and *tibi mitto*); and it appears sporadically in poetry, and in very late prose. In the main, however, the accusative took from the dative the expression of the idea of literal direction in space; for the accusative, by its very nature, was fitted, after the rise of the prepositions *ad*, *in*, etc., to express the contact or nearness which ordinarily results from motion toward anything.

This general view of the dative is one of the two that have been held in the past. It is at present the unfashionable view. But it has not hitherto been supported by a satisfactory explanation of the accusative. I believe that, with this backing, it will triumph. Moreover, the theory affords a very beautiful solution, not hitherto proposed, of the origin of the use of the dative in Latin and Greek after verbs compounded with certain prepositions. Of the compounds occurring most frequently in Cicero and Cæsar with this construction, the verb in the large majority of cases either denotes literal motion, or originally denoted it. *Adfero*, *infero*, *adicio*, *inicio*, *accido*, are familiar examples. My theory is that the dative as originally used,

after *adfero* or *infero*, for example, was precisely the same thing as the dative after the simple *fero*, namely, the expression of direction in space.<sup>1</sup> The *in*, when it first appeared, was a mere adverb. In this class of compounds the adverbs never advanced beyond the adverbial stage, but, on the contrary, became welded into one mass with the verb. In consequence, no new influence was exerted, as *was* exerted when the adverb became a true preposition, to change the construction of the dependent dative. The type accordingly became fixed. Doubtless other types also came into existence, as with *intersum*, which would originally take an accusative; but the large preponderance of the dative type with original verbs of motion overpowered these outlying types, and made the dative the construction for them all.

I should be glad, if there were time, to take up the matter of the earliest forces of the moods, and to sketch the probable ways in which the leading secondary forces were developed from these.<sup>2</sup> Anyone who has studied the various theories about the Latin subjunctive and the Greek subjunctive and optative knows that there has been no satisfactory explanation of the historical relations of the various forces. There has remained, for example, an unbridged chasm between the optative of wish and the potential optative. But I must here confine myself to a sketch of a very primitive form of conversation, and a general hint about the subsequent development of mood-expression. I have said that I believed the earliest verb of the parent speech of the Indo-European family of languages to have expressed merely the idea of activity (or state) together with that of person. Let us suppose, then, that we have an inflection like "I go," "you go," "he go," etc.; and let us imagine how a little fellow of the earliest period would think and talk in projecting, carrying out, and afterwards narrating a fishing excursion. In the morning, perhaps, he is in doubt whether to fish or hunt. Instead of using the deliberate subjunctive, as a later boy would have been able to do, he would think to himself: "I go hunting? I go fishing?" Finally he resolves, "I go fishing,"

<sup>1</sup> See footnote, p. 427.

where a later boy would have used the volitive subjunctive ("I will go fishing"), and a still later one the future indicative. His wish (later optative) for somebody's companionship, let us say Johnny's, would express itself in, "Johnny, he go too." He goes to Johnny and says, "I go fishing, you go too" (later imperative, volitive, or optative for the second verb). Johnny's mother not being a negligible factor, he goes to her, announces his intention and prefers his request, "I go fishing; Johnny, he go too" (later, imperative, volitive, or optative for the second best), and expresses a conviction that *if* they go, they will make a big catch—"we go, we catch much fish" (future condition and conclusion). Johnny's mother gives her consent by saying: "Johnny, he go" (later imperative, volitive, or optative), but prudently advises, "you eat before you go" (the last verb corresponding to the later anticipatory subjunctive). They go, and the organizer of the expedition narrates the story the day after in the form: "Johnny and I, we go fishing yesterday; we catch much fish" (historical present).

The new moods, imperative, subjunctive, and optative, probably came into existence later, each with a single and fairly simple meaning. With these meanings others became associated, so that the powers of the moods became gradually enlarged. At every step of the process these differentiated moods took from the original set of verb-forms something of its functions, until gradually the range of the latter was narrowed down, in ordinary use, to the expression of true indicative and true present ideas. Other tenses—perfect, imperfect, future, etc.—were then built up to correspond to this present indicative. Nevertheless, the primitive present indicative, as we may call it, never wholly lost its original powers, but continued to be used, from time to time, in a number of them. Indeed, the greater part of the planning, conversation, and narration sketched above could have been expressed by a Roman of literary times in precisely the same way. The so-called present indicative is actually found, here and there, to express deliberation, resolve, consent, anticipation (as after *antequam* and *priusquam*), a state-

ment about the future, a future condition, and a fact of the past (historical present).<sup>1</sup>

If, now, each of the cases, and each of the moods except the primitive present indicative, had at first a single meaning, it is obvious—and has, indeed, been assumed in all that I have said—that a great number of new constructions have arisen out of these simple ones. Otherwise our grammars would be far shorter and far simpler than they are. Can we put our finger upon the processes by which these changes have taken place? I think we can, and that the description of them can be condensed into a few formulæ. Briefly, growths of construction come about mainly in four ways. Let me first name them, and then illustrate them.

1. Through the *figurative use* of a case, a mood, or a tense.
2. Through the *association* of a new idea with an existing construction.
3. Through the *fusion* of two or more constructions into one.
4. Through *analogy*, *i. e.*, the influence of one or more constructions upon another resembling them in meaning.

The first two ways are similar to ways in which changes take place in the meanings of words, and can be best explained in the light of these changes.

1. *Figurative use*.—Many words of sense perception are used to express something which bears an evident relation to a thing perceived by the senses, yet is different. For example, just as we say "the fire burns," so we say "the man burns with anger." In a precisely similar way we use prepositions of space-relations to express ideas which really have nothing to do with space. So, for example, just as we say "he flees from the camp," *ex castris fugit*, we may say "sick from a wound," *ex vulnere aeger* (Cic. *Rep.*, 2, 21, 38). In the first example the separation is really one in space; in the second, it is a figurative one.

2. *Association of ideas*.—This can be best understood by illus-

<sup>1</sup> The theories here presented for the accusative and dative cases and for the present indicative, together with a sketch of the rise of the principal powers of the subjunctive and optative, will be found in two abstracts in the *Proceedings of the American Philological Association*, 1901. The papers will be published in full in the *Indogermanische Forschungen*.



tration from changes of meaning in words. Let us take a familiar Roman word, that of the site of the original city. The name *Palatium* seems originally to have meant something like "the shepherd's hill," and at any rate denoted simply a certain definite spot in Rome. But in imperial times the emperors built splendid buildings upon this hill, and the word came in consequence, through these new associations, to gain a second meaning, that of a splendid building. Ovid has it in this sense in the phrase "the palaces of great heaven," and this is the sense in which we use the modern descendant of the word today. What takes place in such cases can be conveniently stated in a brief algebraic formula. Let  $x$  equal the original meaning of a word; and let  $y$  indicate an additional meaning which, either in the nature of things, or by chance, becomes attached to this original meaning. The word, at this stage, has two meanings, for either of which it can be used: namely, the original one,  $x$ , and the original one *plus* its new association, that is,  $x + y$ . But in such a case the original meaning is frequently lost, so that nothing but  $y$  remains, as when today we speak of a palace, having no thought whatever of any shepherds, or of any hill in Rome. Of course the process can be continued indefinitely, a new meaning,  $z$ , becoming associated with the meaning  $y$ , with a possible ultimate loss of both  $x$  and  $y$ , so that in the end no element may remain of the original meaning, or even of the second meaning. Such is the case, for instance, with the Italian word *cattivo*, "bad," the corresponding French *chetif*, and our word "caitiff," all of which came originally from the Latin *captivus*, "a prisoner of war."

Now this process of change through association and loss is as sure to have taken place in the history of mood-ideas and case ideas, as to have taken place in the history of the meanings of words. An altogether probable illustration in mood-usage is the following: The volitive subjunctive in its original free use could be employed to express a command, as in *id facias*, "do this." But this command might be given under circumstances that seemed to the hearer to make it unreasonable. If he echoed the command in the form of the question, *id faciam?* "am I to



do that?" a new feeling, that of surprise, remonstrance or indignation, would become a part of the idea in effect conveyed. The total meaning of the question at this stage was  $x + y$ . The inevitable result would be that in time the original meaning,  $x$ , would disappear, leaving nothing but an *exclamation* of surprise, remonstrance, or indignation, without any idea of question. The meaning is now simply "the idea of my doing that!" or, in the language of our formula, simply  $y$ . A striking example of the construction at this extreme stage of development may be seen in a familiar passage in the *Second Oration against Catiline*, 8, 18: *tu rebus omnibus ornatus et copiosus sis, et dubites!* "the idea of your being abundantly equipped with everything, and yet hesitating!"

3. *Fusion*.—Two or more constructions which, though of different origin, have the same form and possess a certain meaning in common, may mingle together in one construction, expressing that common meaning only.

The example which I shall use is taken from the results of my study of the descriptive genitive and ablative, which results, I am sorry to say, differ from those of the very interesting dissertation published a couple of years ago by Mr. Edwards. My views have been published in abstract in the *Proceedings of the American Philological Association for 1900*, and the whole paper will be printed ultimately in the *American Journal of Philology*. I shall today merely briefly sketch my conception of the way in which the genitive construction came into existence.

In a number of phrases a genitive which is, in origin, merely possessive, may also happen to *describe*; as when we say "a man belonging to the senatorial order," *homo senatorii ordinis*; "a man belonging to this class," *homo huius generis*, or, in commoner English, "a man of the senatorial order," "a man of this class." Here the case which originally expressed the possessive or possessive-partitive idea (let us call this  $a$ ), *happens* also to suggest a descriptive idea,  $y$ , so that the meaning is now  $a + y$ . On the other side, we often find an explanatory (appositional) genitive which also *happens* to describe. When, for example, we say "a fleet of a hundred ships," *classis centum navium*, the genitive,

which really explains what the fleet is (the fleet *is* the one hundred ships), happens at the same time to describe, through the idea of quantity. In algebraic formula, the meaning is  $b+y$ . The idea of description,  $y$ , is common now to both factors, the factor  $a+y$  in the case of the originally possessive genitive, and the factor  $b+y$  in the case of the originally explanatory genitive. But the case-form, the genitive, is the same in both instances. Naturally enough, then, this case-form seems to have the *power of describing*. The inevitable result is that it is freely used to convey this idea, so that abundant examples occur in which one finds no trace either of the original possessive meaning,  $a$ , or of the original explanatory meaning,  $b$ , as for example, when we say "a young man of great courage," "a wall of ten feet in height." What happens in such a case is that the two constructions come ultimately into complete fusion, the result of which is a single construction, in which only the element common to both the original constructions appears, while the individual, and consequently mutually exclusive elements, of the original constructions have been wholly lost. This, again, may be put in algebraic formula, as follows: If a meaning,  $y$ , becomes associated with each of two or more different constructions,  $a$ ,  $b$ , etc., so that the meanings are respectively  $a+y$ ,  $b+y$ , etc., the result is likely to be a fused construction in which the meaning  $y$  alone is conveyed, the original meanings,  $a$ ,  $b$ , etc., being lost. It is my belief that this process has played a very large part in language, and that its influence explains many constructions which hitherto have been dark.

4. *Analogy*.—A very simple and interesting case in Latin is Quintilian's use (10, 1, 74) of a subjunctive *qui*-clause after *meretur*, on the analogy of the *qui*-clause after the equivalent *dignus est*.

I have not covered the entire ground in this sketch. A careful analysis can show still further influences through which these changes tended to come about, or which assisted these changes. One of these has indirectly been included in the above, namely, the cause of the association of a new meaning with an older one in a mood-construction lies chiefly in the nature of the circum-

stances under which, in a given instance, the mood is used. These circumstances, so to speak, give a new *color* to the construction. Thus, in the case of the subjunctive of surprise, remonstrance, or indignation, it is the unreasonableness of the thing required that brings the new idea into the volitive question, and so leads to the final employment of the volitive form to express this idea alone.

In a recent book of much interest, entitled *On Principles and Methods in Syntax*, my friend, Professor E. P. Morris, states that Delbrück and "the American school" (as he calls Mr. Elmer, Mr. Bennett, and myself) regard the moods as in themselves containing all the ideas which we find in actual usage, and overlook the influence of circumstances, and of the contents of the sentence outside the verb, in affecting the force of constructions. I agree with Morris's position to this extent, that our grammars say far too little of the influences that have tended to make constructions what they are; but I differ entirely with regard to his statement about the methods employed either by Delbrück or by the "American school." The passages from which I have taken the above sketch of the causes of the growth and changes in constructions were in type before Morris's book appeared, and cover more ground than his treatment of principle has covered. The particular algebraic formulæ which I have used to illustrate association and loss and fusion are my own; but the idea of fusion in constructions, though not put forth with sufficient clearness and insistence, has been recognized by various workers, and so has the idea of association and loss, though again not with a sharp precision of statement. There is no other single point that has played so large a part as the last in my own published investigations. It lies at the basis of my treatment of the "Cum-Constructions," published fourteen years ago, and a very explicit statement about it is made in the discussion of methods true and false (p. 247). Professor Bennett and Professor Elmer have prominently employed it (see Bennett's *Appendix, passim*, and Elmer's *Cornell Studies in Classical Philology*, VI). Delbrück's whole scheme of the rise of the various subjunctive

and optative forces out of a single original one in each case is implicitly based upon it. Indeed, the existing Latin and Greek grammars, even those of the last generation of workers, are full of instances of the tacit application of this principle.

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## EDUCATIONAL DIAGNOSIS.

THERE is no greater need in our schools than a better method of educational diagnosis. This paper does not present a "method" of doing a certain kind of educational work, but it aims at presenting a better method of finding out what work ought to be done.

Let us accept the statement that the true purpose—indeed the only excuse—for which a school exists is *to fit a child to live in his world*. As we say of self-consciousness, this is just a fact; it needs no argument. But we must specify what "to live" means. This must be determined before we can possibly go on.

It will be seen at once that the simple knowledge of studies will not fit one to live. People thus provided are usually pitiful failures. We must study life as it is today and as it is likely to be in the coming generation, and thus determine the qualities which, developed in a man, would fit him to live in his world. These qualities, when once determined, would of course become the *specific* purposes of the educative process. They are not hard to discover, and when found it is astonishing that scarcely one of them is a clearly defined aim of the schools of today; and that scarcely one of them will be developed, other than by accident, by the general teaching of today.

When we make a study of life, we see at once that in our attention to the book we have frequently forgotten to watch the growth of the child. It is no wonder that a student once said to me: "Why has none of our teachers ever said anything to us about *us*, when it is about us that we should know?" Verily, verily!

Such a state of affairs will show us at once that schools should be places where children are trained to the acquirement of qualities instead of places where they are simply to learn things. They will carry away from such a school a dozen times as many "things" when the books are used as means for training

in qualities as they will carry away when the books are used as ends. The idea which a teacher usually has of his duty to a child is to furnish him with a certain amount of knowledge of a particular kind, or in other words, that the school is to build his mind on a water-tight compartment plan. This seems to me to be very ridiculous. *Each* teacher should teach the *whole* child, for there is not any time during which the child cannot have opportunities to go through processes in the many qualities which would fit that child for successful living in his world.

The most successful teaching in the world, as far as the attainment of a rational purpose is concerned, is found in the physical gymnasiums of today. The director of a good gymnasium has almost attained perfection in the definiteness of his purposes and the excellence of his methods for their attainment. He has succeeded because of his excellent method of diagnosis. It will pay to study the method of these directors. Let us see how they form their purposes and how they attain them.

First, these wise teachers form a perfectly clear purpose which is not a catchword. *They want to develop a physical man.* So they have to determine first — What is a physical man? To find out this, they have made many investigations so that they may determine what measurements will most thoroughly test a physical man. Then with these measurements, they have examined thousands of men. From these examinations, they have determined what are normal proportions for men of all heights and weights. Then they prepared what they call an "anthropometric chart." This contains norms in all particulars for men of all heights and weights. These norms are the final purposes of the directors in their teaching.

This chart, as will be seen, has on the left the items of measurements which will thoroughly test a man physically. To the right of this is a column for the measurements of a particular man. Further to the right are measurements running from 1 to 99, in the columns under which are given specified normal proportions of men of all possible sizes. The chart in the first column, under the figure 1 on the left, shows that out of a

large number of men, but one has as poor measurements as those shown in this column. In the middle is a column which shows the measurements of the average man; while to the extreme right is the record of an almost ideal man, who has the magnificent proportions shown in the column under the figure 99. In the

No. 104.

PER CENTS.		1	2	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	98	99	
Weight	150	1033	1075	1159	1195	1253	1268	129	1343	1356	1355	1375	1385	1415	1435	1464	1477	150	1526	1557	1594	1657	1715	1751	
Height	60	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	
Breadth of Shoulders	16.5	142	145	148	151	153	154	155	157	158	159	16	161	163	165	167	169	17	174	177	18				
Chest - coat	-	86	88	91	94	96	97	98	99	10	101	102	103	104	105	106	107	109	111	114	117	12	123	128	
Chest - exposed	11.5	95	95	98	101	103	105	107	109	11	111	112	113	114	116	117	118	119	122	125	128	132	135	14	
Waist - Coat	-	63	64	65	66	67	67	68	69	7	7	7	7	7	7	7	7	7	7	7	8	8	8	8	
Waist - Exposed	8	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
Forearms	14.6	12	12	12	13	13	13	13	13	13	13	13	14	14	14	14	14	14	14	14	15	15	15	15	
Chest Expanded	27.7	229	304	312	319	323	327	33	333	335	338	34	342	345	347	35	352	355	358	362	366	374	381	386	
Waist Expanded	39	323	329	338	346	352	356	36	363	366	369	372	375	378	381	383	387	39	392	398	403	412	421	427	
Wrist	37	248	253	262	269	274	278	282	285	288	291	293	296	299	301	304	307	31	313	317	323	33	339	345	
Right Forearm	10.5	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
Right Upper Arm Down	12	83	86	9	94	96	98	10	101	103	104	106	107	108	11	111	112	114	116	118	12	124	128	131	
Right Upper Arm Up	13.7	99	102	105	109	11	113	115	116	118	119	12	121	123	124	125	126	128	13	131	134	138	141	144	
Left Forearm	10.3	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
Left Upper Arm Down	11.3	83	86	9	94	96	98	10	101	103	104	106	107	108	11	111	112	114	116	118	12	124	128	131	
Left Upper Arm Up	13.3	99	102	105	109	11	113	115	116	118	119	12	121	123	124	125	126	128	13	131	134	138	141	144	
Right Thigh	23	17	173	179	184	188	191	193	195	197	199	201	202	204	206	208	21	212	214	217	22	226	231	235	
Left Thigh	15.7	116	119	123	126	128	13	132	133	135	136	137	138	14	141	142	143	145	147	148	151	154	158	161	
Right Calf	22.7	17	173	179	184	188	191	193	195	197	199	201	202	204	206	208	21	212	214	217	22	226	231	235	
Left Calf	15.3	116	119	123	126	128	13	132	133	135	136	137	138	14	141	142	143	145	147	148	151	154	158	161	
Lung Capacity	12.8	162	176	192	205	212	220	228	232	240	245	250	254	258	261	264	270	273	282	290	302	315	330	348	
Grip - Right	-	65	75	85	90	95	100	105	109	113	117	121	124	127	130	134	138	142	147	152	159	169	175	190	
Grip - Left	-	65	75	85	90	95	100	105	109	113	117	121	124	127	130	134	138	142	147	152	159	169	175	190	
Strength Back	-	198	210	230	248	265	275	287	298	308	320	330	338	348	356	367	376	385	395	410	430	465	485	508	
- Legs	-	250	275	300	325	350	365	380	395	410	423	435	445	457	465	476	490	515	540	575	610	645	685	725	
Tip	3	0	0	12	34	48	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
Full Up	4	0	0	17	33	44	52	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	

other columns are shown the proportions of a certain number of men receding each way from the center with reference to the frequency of such individuals. To the left of the center the cases get fewer and fewer where men have such poor proportions; while at the same time on the right the number grows smaller and smaller of those that have such magnificent proportions.

Now, the gymnasium director has on this chart the measure-

ments of normal men of all heights and weights so that whatever man he measures he has for him a norm. This norm is the director's *general* purpose. The specified measurements under the man's height or weight are the *specific* purposes. Thus he has prepared an excellent basis for a correct diagnosis.

Then a particular man is measured. If his measurements make a straight line down from his height or weight, he is properly proportioned, and is only to be generally developed, or even kept as he is, if grown.

If his line is zigzag, as in the chart presented here, the purposes of the gymnasium director become very definite at once. He does not have to guess. The measurements under the subject's height or weight are the desiderata or limits. The actual measurement in any particular is the variable which must be made to approximate toward the limit or purpose, so that when the measurements are completed the director has as complete specifications for his task of making a physical man as has an architect for making a building when his drawings are completed. Now the director knows what to do. In other words, his diagnosis has given him specific purposes and from these it is not difficult to deduce logical steps of what to do. So he has easily found his second item for philosophical doing—the necessary steps to be taken in order to attain the purpose formed.

No director on earth would be so foolish as to take a complete book of exercises and start a person at the beginning and have him "go through it," for he might develop his man in a measurement where he is already overdeveloped, as is the man in the chart with reference to measurements at the waist. Neither would any doctor on the face of the earth start a man at the beginning of a book of prescriptions and "take him through," unless he had an offensive and defensive alliance with the undertaker.

But this is exactly what we do. Thus, for example, we teach rhetoric and grammar, not considering for a moment what training purpose is to be subserved by the several exercises. Mayhap a child is already overdeveloped in the very thing we give him



to study, and so we make him lopsided. I know a little girl who is compelled to drone over the lessons in her third reader when she knows nearly all of them by heart, and is also familiar with her fourth and fifth reader, in which she is tacitly promised a long hereafter of punishment. What effect must this have on one's zeal to grow? Such a school becomes an intolerable bore to a child, and it is no wonder it wants to get out and away. Thus we make the child exist for the system, instead of the system for the child. Thus we lose sight of the real purpose—the *growth of the child*. Such a method would make a farmer forbid the corn in the rich bottom land to outgrow the corn in the clay on the hill.

I have inserted in this article an actual anthropometric chart (p. 435). This is a chart of a real man. It will bear some patient investigation from the desiring teacher. It is the chart of an abnormally unsymmetrical man. Now look over the chart and notice the remarkable asymmetry of his proportions. Would any gymnasium director think of starting such a man into the first exercise of a book of exercises without making a diagnosis? The chart at once shows that this man is short on lung power and long on appetite. He should have a lung capacity of 273 cubic inches, whereas his actual capacity is only 128. Thus the purpose of the gymnasium director is to develop this capacity from 128 to 273. 128 is the variable which must be made to approximate toward the limit, 273. Now he has a definite purpose. Definite steps at once determine themselves, and means at once to come to hand, and they are *means*.

I may as well stop here to say that there is one law we must observe in all cases. It is at the bottom of evolution and evolution is at the bottom of all true teaching. It is this: *In order to develop a quality, one must go through processes in this quality. There is no other way.* If a race horse should be able to read a book on "How to Grow Swift," it would not make him swift. To read a book on "How to Grow Strong," will not make a man strong. To read a book on rhetoric will not enable a man to speak or write, and so on, without exception. No amount of knowledge of self-control will develop self-control. Nothing

but persistent self-control will develop self-control. And yet in college we studied moral philosophy *intellectually*, thus never getting in sight of the suburbs of *moral doing*. If it were not pathetic it would be ludicrous to see a dear old reverend college professor teaching *moral philosophy intellectually*, hoping that when the students should be able to pass a good examination in the subject they would become men of ethical life. Nothing but breathing exercises will increase the lung capacity of the man in the chart; and nothing but intellectual practice will produce intellectual acuteness; and nothing but moral doing will develop moral habit.

I have shown how truly philosophical is the director in a good gymnasium. It is known to every thinker that the steps of the doing of tasks, when properly done, are alike, no matter what the material worked upon. Now is it not incumbent upon us to look about us for a rational solution of our problem? Let us apply to our case the method of diagnosis of the physician and the gymnasium director. It is the only rational way. Let us for a time lay aside our books on "method." I have now before me three such books of three famous American "educators," and not one of these books discusses clearly a rational specified purpose, but all plunge into a discussion of a method, with scarcely a word about the educational diagnosis of the case to which their "method" is to be applied! As I have said, a method without a purpose is unthinkable, and these books are unthinkable. They are wrong from beginning to end, for they have no purpose.

What shall we do about the matter of diagnosis?

First, we all agree that *education should fit a man to live completely in his world*. We must not stop with this catch-word, but, like the gymnasium director, we must subdivide our general purpose into specifications and determine what "to live" means. There is only one way. To determine this we must study life around us, and find out what qualities are required to fit a man to live completely in his world in order that we may find a basis of diagnosis for the individual child.

A study of life or of sociological conditions will at once

show that in our educational work we have fallen short in two fundamental particulars.

1. We have not studied life, nor determined what qualities would fit a man to live in his world.

2. We have not taken the lesson of evolution, which has been patent to everybody, that to develop these qualities *we must go through processes in them*, and that by this method only can these qualities be developed. The person who knows all about these qualities and their attainment no more possesses the qualities than does a novice who has bought a set of carpenters' tools possess the qualities of a carpenter.

What does "to live" mean? It means to possess as habits, and to put skillfully into practice, in our environment of men and things, the qualities which our sociological environment indicates as necessary to complete living.

I submit in the following biometric chart a list of qualities which I have found applicable to the teaching of students in a class in English. I call this chart "biometric" because, as the anthropometric chart is a method of measuring the physical man, this is a method of measuring a man's life.

Following the excellent method of the gymnasium director, we are able to lay out our work in this chart in such a form as makes our purposes, steps, and means definite and specific.

As the measurements on the anthropometric chart are the measurements of a physical man, so are the qualities on the left of this chart measurements of a particular man, intellectually and ethically. I do not present these qualities as at all final. They are, as I have said, simply a set of qualities which I have found it possible to develop in a class in English. The vacant lines beneath the qualities are for the addition of such qualities as particular pupils may wish to attain, and in which they desire the teacher's judgment. I should here perhaps give a definition of the meaning of the qualities given on this chart.

#### MEANING OF QUALITIES ON THE BIOMETRIC CHART.

1. *Direction following.*—As most students will, in life, be employed by others, and as in our highly organized world of

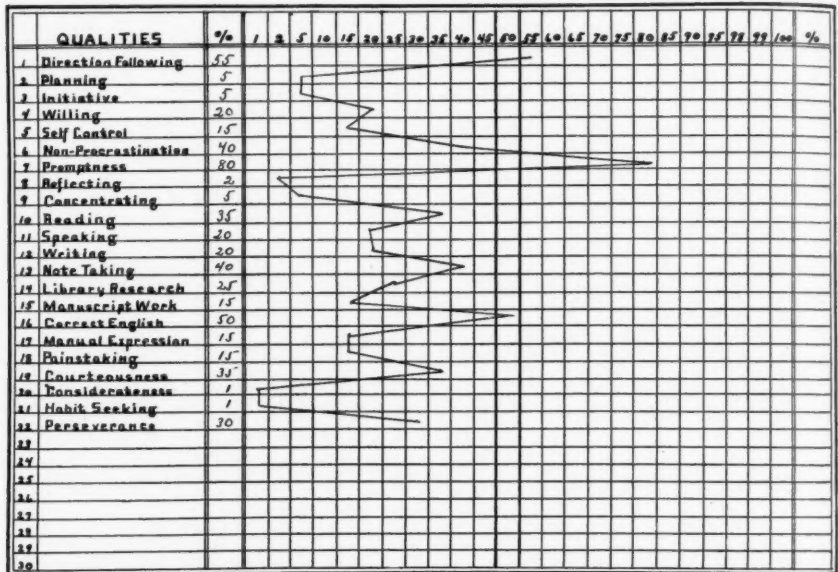
today these employers have systems by which all their work must be done, such employment requires the power of minutely and faithfully following directions. The employer himself must also follow the directions of the plan which he has formed. This habit is a pre-essential to almost everything else.

Steele High School  
Dayton, Ohio  
1901-'02

# BIOMETRIC CHART

applied to  
Students in English

710. 87  
Student Class  
710. 12, 1901



Designed by  
William I. Crane  
Teacher of Boys and Girls

2. *Planning*.—This quality implies that there is such a thing as a *science* of planning,<sup>1</sup> which can be learned, and made into a habit. Only a small minority of men can plan. Therefore the rest toil under them, because the majority cannot plan. Following the directions of others should be developed into an ability to plan for oneself.

<sup>1</sup>The author of this article has developed the science of planning in a small volume, as yet unpublished, and called *Elements of Organization*.

3. *Initiative*.—This means that we shall not wait for others to tell us to do things which we know are necessary for our training, but that we shall force ourselves to start toward the doing of those things. The student who does not develop this power will sit down on a milestone of life and wait for somebody to start him. The difference between a student who has initiative and a student who has not is the difference between a steamship and a sailship. The one has its motive power within, the other is wholly dependent upon winds and tides.

4. *Willing*.—This implies the development of the absolutely necessary power of forcing ourselves to do what we ought to do and do not want to do, and to refrain from doing what we want to do and ought not to do.

5. *Self-control*.—Self-control, in this case, is intended to a large degree to mean self-restraint, as even initiative and willing may develop into intemperance. Self-control is the noun which represents the old Greek motto, "Never too much."

6. *Non-procrastination*.—Procrastination is the worst fault in life. It is the habit of putting off the doing of a task, although the impendency of the task makes us miserable. Each day brings its duties without the burden of yesterday's. This habit can be broken only by forcing oneself into the immediate doing of tasks, or into the state of non-procrastination.

7. *Promptness*.—This means "on the spot;" neither late nor early.

8. *Reflecting*.—This is a most difficult thing to do. It consists in holding one's mind down to a subject and in bringing into consciousness everything one knows concerning it until nothing else occupies the mind. It also implies the power to think out or organize a subject which the mind is dwelling upon, until the subject becomes perfectly clear. Complete living without this power is not possible.

9. *Concentrating*.—This is meant to be the complement of reflection. It means here the development of the power of banishing everything from the mind except that upon which the mind is working.

10. *Reading*.—This implies the development of the power of

drawing out from behind the printed words and realizing in one's own mind the images, thoughts, and emotions of another.

11. *Speaking*.—This implies the power of *orally* conveying to another in clear, correct, and concise English, whatever the speaker is capable of thinking.

12. *Writing*.—This means the conveying *in writing* to another in clear, correct, and concise English, whatever the writer is capable of thinking.

13. *Note taking*.—This implies the development of the power of taking down on paper in correct manuscript form, the outline of a speech or lecture without the hearer's attention being attracted from his hearing to his writing.

14. *Library research*.—This implies the development of the power of finding in a library, without personal assistance, and collecting from books all the material upon a certain subject contained in the said library.

15. *Manuscript work*.—This means the development of the power to express one's thoughts on paper in perfectly legible script, and according to printers' models.

16. *Correct English*.—This explains itself. It is intended to include correct application of the rules of rhetoric and grammar, and the practice of correct spelling.

17. *Manual expression*.—This implies the development of the ability to express by the hand what the mind is capable of thinking or conceiving.

18. *Painstaking*.—This explains itself. It is absolutely essential to complete living.

19. *Courteousness*.—This implies a confirmed habit of polite conduct, based upon what *we* are willing to do or say, without reference to what anyone does or says to us in anger or retaliation.

20. *Considerateness*.—From its Latin derivation, "sitting with another," or, putting oneself in the place of another. It subtends the Golden Rule. Very few people can practice it, for very few people have definitely tried to put themselves in the place of another. To be considerate, requires as much practice as to play a piano. It is the noblest of all social qualities or characteristics.

21. *Habit seeking*.—This implies a *desire to be*. It implies that one has the *habit* of trying to acquire good habits.

22. *Perseverance*.—This has been placed last, because in the acquirement of the twenty-one qualities named above, the habit of patiently sticking to one's practice, or persevering, is necessary to their requirement.

These qualities in no wise represent a finality. They are simply the qualities, as I have said, which I have been able to induce the student to practice in my own class-room in English.

It will be seen at once that the qualities become definite purposes. The right-hand column of the chart, under the figure 100, represents a possible ideal state. In method, the biometric chart agrees in all particulars with the anthropometric chart. Each item has its limit and its variable, so that now we have a purpose, or purposes, so definite that the determination of steps is easy, and we can now determine the course of study—that bugbear—with some degree of common sense. And we see at once that a "course of study" does not consist of books and apparatus, but that it consists of the *processes* through which a child must go in order to attain the qualities requisite for complete living. When these processes are determined, the books and apparatus, or the means, are easily found. A builder does not buy brick and lumber because they look pretty, but because they fit his plans. So with what we now can choose. Having our purposes and our processes, we have now a basis of diagnosis; and books and apparatus become means for the treatment of the case.

And the purposes, the steps, and the means at once and infallibly give the method of application. This matter seems too plain and too natural to need further demonstration; but some objection may be raised to it on the ground that our diagnosis of the child is not so easy as that of the physician and the gymnasium director, because they are dealing with matter and we are dealing with mind. This objection is simply another tradition. A careful examination will show that in nearly all cases the student's state in the twenty-two qualities on the biometric chart is more easily determinable than in either the case of the physician or



the gymnasium director, for he cannot possibly get a norm as to the perfect state of health, or to a perfect physical man, as in all probabilities neither ever existed. But in nearly every case on the biometric chart, a sufficiently perfect norm is easily established, as an examination will show.

As in the physician's case, part of that which we must know is objective to us, and part is subjective to the student. We can tell absolutely when he is following directions, but he must tell us to what extent he can reflect. But this is also true of the physician who has to ask the patient whether he has a pain in his head.

The objection will also be raised that we cannot get the truth from the student in these subjective particulars. That is true as long as the present grading system exists, and the pupil knows he cannot "pass" if he tells the truth about himself. What would happen if a patient, when asked by the physician for his symptoms, knew that he would lose his job, or probably be disgraced if his symptoms were bad. The physician gets the truth because the patient knows that what he tells is a sacred secret between himself and the physician. A sufficiently perfect diagnosis of a child's mental and moral qualities can be arrived at if the child also has the fear of the grade records in the principal's office removed from him. I think that Fagin's school for pick-pockets was not a better school for immorality than that afforded by the grading system in public schools. When all fear is removed, I find myself able to get as perfect subjective data from my students as does the physician from the patient. When they know that it is inviolably secret between themselves and the teacher, they are as anxious to describe their state as is a physician's patient. This is not a matter of theory, but occurs daily in my own schoolroom. And the objections that I have mentioned arise from inexperience.

By the means that I have mentioned teachers become rational doers, and their finished product bears some resemblance to what they started out to do.

What I have shown is what the world has always placed before us, but we have persistently refused to see it.



Psychology now has its purpose—a means of diagnosis, as are anatomy, physiology, and pathology to the physician, and as are normal measurements to the gymnasium director; and our books and apparatus become means of treatment as does the pharmacy to the physician, and the gymnasium apparatus to the director.

And lastly, we must take the student into our confidence, and let him know what relation the processes through which we wish him to go bear to his future life. No student can possibly be awakened to real self-activity while in ignorance of the method of his culture. What seems to be self-activity in a student under any other conditions is simply the *ignis fatuus* of self-activity. It appears to have light, but it has no heat, and it vanishes when the student tries to light his life with it. Education is the process of purposive evolution by means of training in desirable qualities; and training is unbearable drudgery until the student is born again with the motive resulting from the knowledge of the method of his culture. And this method must be based upon a correct educational diagnosis.

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## RELATION OF TEMPERAMENT TO WITHDRAWAL FROM SCHOOL.

IN Professor John Dewey's classification of the problems of secondary education, the first one given is the extent and cause of the dropping out of pupils from school. During the past two years I have been collecting material and data bearing upon this question, and this paper sets forth the results of this investigation in so far as temperament affects withdrawal from school.

Over a hundred superintendents of Illinois, Iowa, and Michigan agreed to send monthly reports for pupils dropping out of school. These included many things besides the temperament of the pupil. It was hoped that a monthly report carefully made by the teacher while the pupil and his peculiarities were still fresh in mind would possess a degree of accuracy not possible for reports made at the end of the year. Each teacher would have very few to make at one time, and would, therefore, be more liable to give careful attention to each. By thus distributing the work over considerable time and a wide area, errors arising from the personality of teachers and peculiarities of systems have been to a large extent eliminated.

One difficulty of the investigation lies in the fact that the vocabulary of temperament is not a settled one. The classification of Ribot, Paulhan, and other French writers are quite unknown to most teachers, and the terms in common use are variously interpreted. The characteristics attributed to each division occur in such mixture, and pure types are so seldom met, that any attempt to classify pupils according to temperamental attributes is a very difficult one. It was deemed wise to attempt no definition of the terms used. Each pupil was to be marked in one of four groups—nervous, above medium, below medium, and stolid. The characteristics commonly ascribed to the nervous are so markedly different from those attributed to the stolid that there would be little probability of any difference

of judgment arising in regard to those who would be placed in the extreme groups. There would, of course, be some disagreement in classification as between adjacent groups, but it is probable that the amount of error in one direction would be balanced by an equal amount in the other.

It should be remembered that the classifications which will be made by teachers, in order to apply the conclusions of this paper, will be made under the same conditions as were the classifications from which the conclusions were drawn. Even though from a scientific point of view the data may not be wholly accurate, it yet remains true that the conclusions are valid and will be quite as liable to be helpful to the working teacher as are conclusions based on more accurate data, when applied by unscientific people to classifications others than those from which the conclusions were drawn. In this same connection it may be said that the causes for withdrawal were reported by the teacher and would, therefore, be given always from the teacher's point of view which would, in many cases, be radically different from the point of view of the pupil. The article is written, however, for teachers, and is to be applied by them to what they think are the causes for withdrawal.

The causes for withdrawal as reported have been classified into groups as follows :

- |                                 |                                 |
|---------------------------------|---------------------------------|
| 1. Ill health.                  | 7. Truancy.                     |
| 2. Leaving to work.             | 8. Bad conduct.                 |
| 3. Desire for activity.         | 9. Attendance at other schools. |
| 4. Indifference to school work. | 10. Dislike of authority.       |
| 5. Home influence.              | 11. Bad habits.                 |
| 6. Failure in work.             | 12. Society.                    |

It will be perceived that some of these are closely related to others, and may be results rather than causes. Truancy, bad conduct, dislike for authority, and desire for activity outside of school work may be the results of poor teaching or bad school management, causes which we would not expect the teachers to report. It is also probable that many of those who left to work had some other reason for leaving, and the statement "left to work" merely tells what they did and not why they left.

Reports were tabulated for 1,200 pupils, 715 boys and 485 girls. The following percentages were found to exist :

	Boys.	Girls.
Nervous - - - -	23	34
Above medium - - -	32	37
Below medium - - -	25	23
Stolid - - - -	20	6

The nervous type is more prominent with the girls than with the boys. Only 55 per cent. of the boys are given in the two upper groups, while 71 per cent. of the girls are found there. In the absence of data showing what proportion of all girls belong to each group, it is impossible to say whether this percentage is proportionately greater for one sex than for the other.

From a tabulation of the temperaments of pupils reported for each of the twelve main causes for withdrawal the curves on Figs. 1 and 2 were made. In these the base line represents the expected percentage prevailing in any group, and the ordinate distances indicate the percentage by which the temperamental conditions of the pupils in each group exceed or fall short of this expectancy. For example, curve 1 represents the temperamental conditions of pupils withdrawing because of ill health. Twenty-three per cent. of all the boys reported were of the nervous temperament, and if temperament had no effect on health, we would expect 23 per cent. of the boys withdrawing because of illness to be of the nervous temperament. The base line, therefore, represents an expectancy of 23 per cent. Actually 37 per cent. were reported as nervous. This exceeds the expected percentage by 14, and so the point of the beginning of curve 1 is placed 14 above the base line. The expected percentage of the group above medium is 32 per cent., while the actual percentage is 41, an excess of 9. The expectancy in the next group is 25 per cent. while the actual percentage is 19, a shortage of 6, bringing the curve below the base line. In the group marked stolid, the actual percentage fell to 15, below the expectancy of 20.

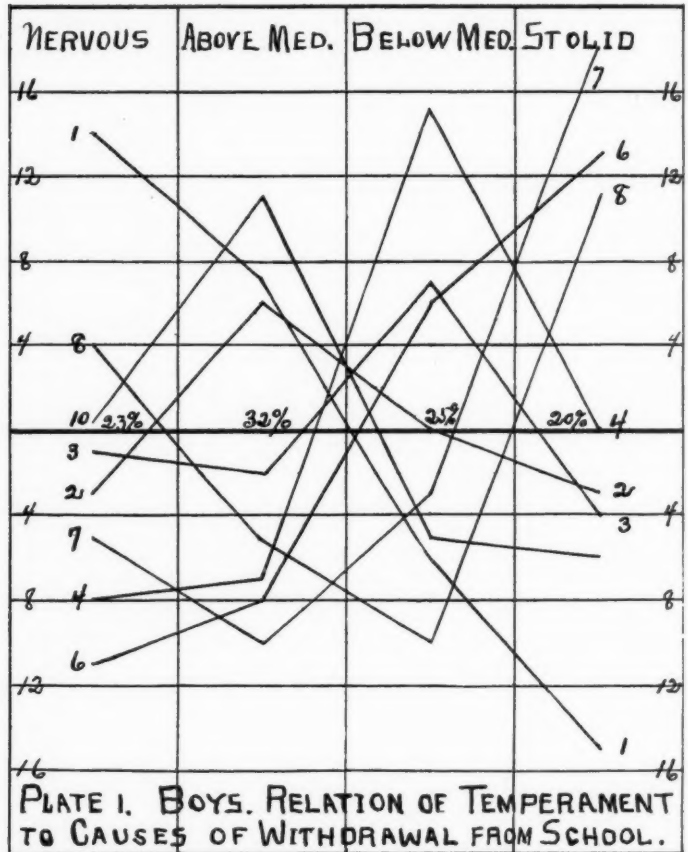
Curve 1, therefore, indicates that nervous children are more liable to withdraw because of illness than are those in the other groups. The nearer the children approach the stolid condition,

the less is the liability of health conditions affecting their attendance. This agrees with the reports of specific diseases in which nervousness is the predominating one, and serves but to emphasize the necessity of watching carefully the health of the nervous pupil. While he is the pupil who stands highest,<sup>1</sup> and for whom the school can often do the most, as we now measure results in marks, he is also the pupil whom the school can most harm. The stolid pupil cannot be overworked, and his nerves are seldom wrought up by the conditions of school work; but our most energetic and willing pupil is the one most liable to respond to appeals to push forward to the point of overdoing and permanent injury. Much harm is wrought by general class appeals for better work or more of it, by which the teacher hopes to stir the stolid to activity. Such appeals usually have no effect upon those for whom they are intended and who could profitably undertake more, but they are taken as personal by the nervous worker, who spurs on to greater effort, often at enormous cost, not noticed because the day of payment is not just now. Only those parents who have such nervous children can appreciate how hopeless is the task of showing them that the directions were not meant for them, or can know how sensitive they are to the stimulating influence of such appeals for more work, or at what cost this effort is made. Most of the directions for class work and home study are productive of harmful results with some pupils, and the practice of giving a class a scolding in the belief that it may do those who need it some good, and will do the rest no harm, is wrong, and should not be tolerated.

The remaining curves on Figs. 1 and 2 were constructed in a similar way. Causes for withdrawal probably not largely influenced by temperament, such as attendance at other schools, have been omitted, as have also causes for which but few cases were reported. It will be noticed that in nearly every case the same conditions prevail for both boys and girls.

<sup>1</sup> DR. E. G. DEXTER, "Some Conditions Influencing Success in School," *Science*, Vol. XIV, pp. 248-55, August 16, 1901. The groups marked nervous and above medium comprise more than 60 per cent. of all the pupils in the first half of the class in scholarship.

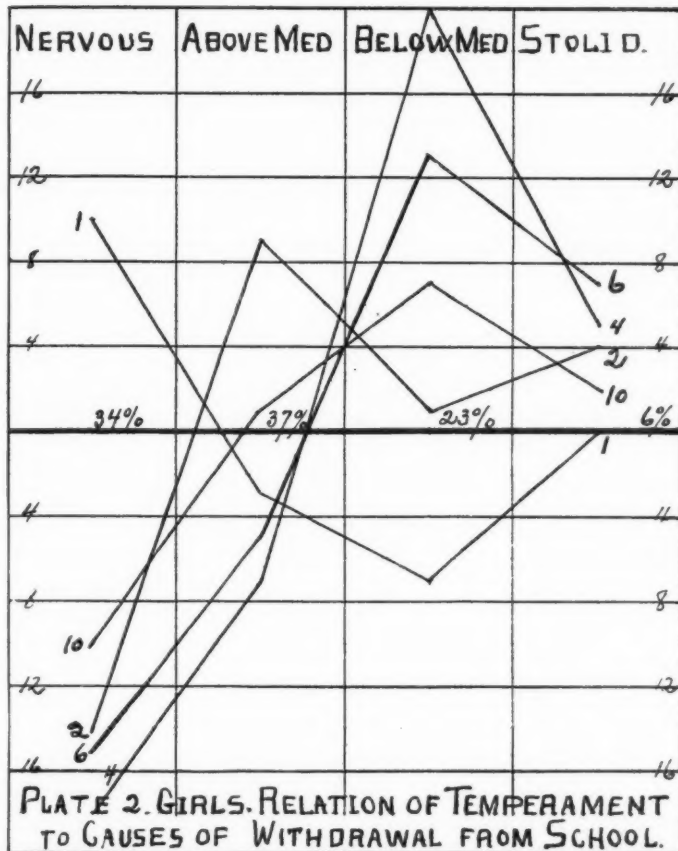
Those who left to work are indicated on curve 2. Where poverty was the cause of leaving it might be assumed that temperament would have no effect. As I have said before, the



going to work was often a result and not a cause of withdrawal, and I am of the belief that the leaving in many cases was influenced by conditions of temperament.

The curve indicates for both boys and girls that those above medium were leaving in numbers greater than the expectancy.

A separate tabulation of those leaving to work whose financial conditions were such as to render the necessity of working improbable, shows this same predominance of those above



medium. It is among this class especially that some other cause than left to work should be sought. Such cases occur but rarely before the age of 14, but from that on they are found in rapidly increasing numbers. For boys whose financial conditions render leaving school unnecessary, the entry "left to work" is

not sufficient, and a fuller investigation should reveal, in so far as possible, whether it is the readjustment of beginning adolescence, a dislike for authority, or other cause, which leads them to prefer work to school.

The group who left because of a desire for activity included those for whom were given such reasons as "joined the navy," "desire to hunt," "to play in a band," etc. No cases of girls leaving for such reasons were reported. This group includes those boys who were possessed of an abundance of physical energy and a desire to expend it, but who were not inclined to direct this energy in lines of useful production.

Those below medium in temperament are in excess, and nearly three-fourths of all so reported ranked in scholarship below the middle of the class. Curve 3 is therefore taken to represent a tendency of boys not ranking high in scholarship to get out of school, but these same boys have less ambition than those of the groups above, and are less liable to go to work upon leaving school.

It would be expected that indifference to school work would be greatest with the stolid. Curve 4 shows that it is not so pronounced with the extreme type as with those who are below medium. It often happens that apparent indifference arises from a misapprehension on the part of the teacher. A phlegmatic disposition does not necessarily imply stupidity or dullness. The slowness is often one of initial activity, and a boy who, when hectored and rushed, fails entirely, would often, if given more time, be the surest in the class. With such pupils impatient and rapid questioning leads but to confusion and failure, while frequent interruptions for explanation and correction are a hindrance and not a help. Some pupils will give an immediate answer to any question, but many pupils of the phlegmatic or stolid temperament cannot answer quickly even those questions with whose answers they are very familiar. From such pupils an immediate reply cannot be obtained, and should not be expected. With some pupils it is a waste of time to wait if a reply is not immediately forthcoming; with others it is a waste of time to ask questions at all unless you intend to



wait patiently for the beginning of the reply and to refrain carefully from interrupting when it is once started. A sympathetic consideration of the rate of initial movement of pupils will eliminate some cases of indifference now caused by the rapid-fire methods of nervous teachers.

It has been said that the nervous and above medium groups stand highest in class, and it would, therefore, be expected that the groups below medium and stolid would show the greatest excess of failure in work. Curve 6 fulfills this expectation, showing that the preponderance of occurrence for failure to pass is for boys among the stolid, and for girls among those below medium. It should, perhaps, be noted that the small percentage of girls reported as stolid may affect somewhat the curves for that group. What has been said about questioning in the discussion of indifference is equally applicable here.

Truancy was seldom reported for girls. It is shown by curve 7, and for the boys culminates in the stolid group. All other groups show a deficiency.

Curve 8 is interesting as showing an excess of bad conduct in the two extremes, nervous and stolid. An examination of the particular offenses would probably show that with the nervous the bad conduct arises from the surplus of physical activity which finds outlet in various things not exactly approved by school authorities. Their superior scholarship and quickness of comprehension enables these pupils and the group below to understand the explanations which are made much sooner than do the other members of the class. The repetition of work rendered necessary by the slower half of the class is not liable to interest the better pupils or hold their attention. Those in the group above medium have greater control of themselves, or rather have less strong impulses to activity, and may maintain the semblance of attention and interest, but with the nervous some activity is necessary, and the repression of this activity is a large share of that effort which most teachers are pleased to call maintaining order. The effort to keep the bright pupils at work commonly leads to the too rapid presentation of too much material for the assimilative capacity of the less brilliant ones.

They are soon hopelessly confused, and the original differences are accentuated. This condition produces indifference, which with the stolid, soon culminates in those offenses which arise from sullenness and obstinacy. In many cases the teacher is to blame, because the presentation of the subject has been suited to the nervous pupils and the others do not understand it and, therefore, have no interest in it. A recognition of the various rates of acquisition of pupils and provision for material which shall give the faster ones something to do while the slower ones are still struggling with material already mastered by the others, will reduce the amount of disorder.

Curve 10 shows that those who resent restrictions and who feel hampered by exercised authority are for boys in excess of expectancy in the groups above medium, and for girls in the groups below medium. In all the curves the point of greatest excess over expectancy does not necessarily occur in the group where the largest number of cases occur. While curve 10 culminates for girls in the group below medium, it happens because of the large percentage of girls who are nervous and above medium that though the curve falls below the line of expectancy in these groups, yet the actual number of cases occur in greater number there. The point of greatest excess indicates the point of greatest influence by temperament and not the point of greatest occurrence.

It may be said, then, that this rebellion against authority characterizes those in the upper half of the class. For boys no cases are reported below the seventh grade, but from that point on they occur in rapidly increasing numbers. Similar conditions prevail for girls except that a few cases occur as low as the fifth grade. It is thus clearly indicated that, for the most part, it is the readjustments of the adolescent period which has most effect upon those leaving because of a dislike of authority, and suggests strongly that for high-school pupils there is need for ideals in management and discipline differing from those now prevailing in the grades and in many high schools. This accounts for the fact that grade teachers when transferred to high-school work almost always fail.

In general, the investigation shows that for those of nervous

temperament ill health is the most prominent cause of withdrawal from school. From such pupils we may expect that kind of disorder which comes from surplus activity improperly employed. Dislike of authority is the only other cause rising even to expectancy for either boys or girls. In the next group ill health is still prominent for boys, but falls below expectancy for girls. This should not be taken as indicating that girls of this group are healthier than boys, but rather that they are more persistent in school attendance, even though in poor health. Leaving to work rises above expectancy here. It is from the pupils of this group that we should expect resistance to authority and a desire to regulate their own affairs. With the girls this chafing under restriction is also pronounced among those below medium. Among those below medium ill health ceases to have much effect, but is replaced by desire for activity, indifference to school work, and failure to pass, all three of which are perhaps but different names for the same cause, namely, a dominant interest in other than intellectual pursuits. From the stolid we may expect bad conduct, truancy, and failure to pass, the last in many cases being the cause of the other two.

A teacher, however, may know all this and yet continue to drive pupils from school. It is the sympathetic attitude that counts. It is the desire so to adjust work and so to modify demands that each pupil is best served in accordance with both his tastes and his needs that really gets hold of a boy. To go no further than the recognition of temperamental groups and the knowledge that the pupils of each group are liable to be affected by certain things would place a teacher on a par with a physician who would dose all children for measles because all children are liable to have them. In school as in medicine the individual diagnosis is essential. Any boy may desire to leave school for any of a hundred causes, and the first step of prevention is the accurate determination of what affects him. It is hoped that this discussion of the causes most affecting the various temperamental groups may assist in a more ready determination of the particular cause which affects some particular boy

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## RECENT CHANGES IN THE CURRICULUM OF THE PRUSSIAN GYMNASIUM.<sup>1</sup>

IN deciding to speak to you today on this question, I have been influenced not more by the importance and far-reaching effects of the recent changes, than by the conviction that we have much to learn, not only from the excellencies, but also from the mistakes of the Germans. Far too common among American teachers is the attitude of Russell, who in the preface to his *German Higher Schools*, says: "It is, indeed, questionable whether there is anything peculiar to the German theory and practice of teaching, which is directly applicable to British or American conditions." This sentence is rescued from absolute falsity by the qualifying words "peculiar" and "directly," but if it has any point at all, it is that Russell believes we have little or nothing to learn from Germany on the subject of secondary education. He evidently assumes that the existing form of high school is the best possible one for America, or that the German secondary schools are so different in character, that their good points cannot, without fundamental modification, be made to fit into our system, neither of which positions can, in my opinion, be maintained.

We cannot only learn from the excellencies of the German system but also from its failures, and perhaps most of all from the discussions and proposed reforms, for nowhere have the questions relating to the training of the child, the development of the mind, and the moral and culture value of the school and its studies, been discussed with more earnestness or better understanding than by the Germans. In order to touch on all these points with as little confusion as possible, I have divided my paper into three chapters; (1) the development of the Prussian secondary schools up to the year 1901, with an explanation of the meaning and effect of the various changes; (2) the opposing parties on the question of secondary education, their arguments

<sup>1</sup> Read before the Michigan Schoolmaster's Club, March 28, 1902.

and theories; (3) application of the Prussian experience to our own high schools.

#### I. DEVELOPMENT OF THE PRUSSIAN SECONDARY SCHOOLS.

In spite of the commanding position of Prussia among the German states, not even today is its lead in educational matters blindly followed by the other states. Essential and characteristic differences exist, a study of which would surely prove fruitful, but the brief limits of this paper have compelled me to restrict my remarks as far as possible to the Prussian schools. These, in common with the schools of other German states, took their origin from the cloister schools of the middle ages, *i. e.*, Latin schools for the training of the clergy. The first extension was the city school of the fourteenth century; this aimed to train the layman, but subjects and methods were at first the same as in the cloister schools. In the following century we find many city schools where Latin was neglected or even entirely disregarded, but in the sixteenth century it returned with redoubled power, accompanied by Greek. To this century belongs also the rise of the Protestant schools, which under the influence of Luther and Melanchthon became classical schools of a pronounced type; Greek and Latin were looked upon as ends in themselves, and the chief aim seems to have been to read, write, and speak Latin correctly.

In the seventeenth century French gained a good foothold, but mathematics, science, and German made no substantial progress till the eighteenth century. Latin and Greek still continued the paramount studies, while mathematics and French held the second place. The growth in the study of German, history, and science belongs mostly to the nineteenth century.

In 1747 the first real-school was founded in Berlin by Hecker; in this Greek was dropped, but Latin held a prominent place. The movement in this direction was not, however, well supported, and at the end of the eighteenth century, under the influence of Winckelmann, Kant, Schiller, and Goethe, came a decided revival in the study of Greek, and best of all a real study of the literature of both the classical languages.

In 1812 we find Prussia unifying under the name "Gymnasium," all schools which admitted to the universities; for these a plan of studies was issued in 1816, establishing a ten-year course, in which Latin had 76 hours, Greek 50 (in seven years), German 44, mathematics 60, natural science 20, religion 20, geography and history 27, with a few minor subjects. Each student was to have 32 hours a week; French was not taught. This plan was never fully carried out owing to lack of properly qualified Greek teachers in sufficient numbers and the overcrowding of the lower classes with pupils who were not fitting for the university, and did not desire Greek. Yet no thoroughgoing reform was made till 1837, when the course was reduced to nine years. During the preceding twenty years, many non-Latin schools had been latinized, a work which was practically completed at this time; thus the "Realschulen" were in fact "Realgymnasien." According to the new plan of studies issued at this time, Latin received 86 hours during the nine years, *i. e.*, 10 hours a week for the first seven years and 8 hours for the last two, and Greek 42 hours, or 6 hours a week for seven years. French was restored with 12 hours, or 2 hours a week for six years. To make room for these changes, German lost 22 hours and mathematics 27, while many minor changes were made. The number of weekly recitations was 32 for the first five years and 30 for the last four. In spite of this attempt to unify the system of education, non-Latin schools continued to be established, and in 1859 were formally recognized. The real-school of the first class still had nine years of Latin, but in those of the second class with six or seven-year courses Latin was optional, and there was a third class called the higher citizens' schools entirely without Latin.

From this point we might have expected a natural and regular development of these three or four different forms of schools, but the refusal to admit even graduates of the real-schools of the first class to the universities weakened the real-schools and overburdened the "Gymnasium." Not until 1882 was tardy justice done to the "Realschulen" by admitting their graduates to the study of mathematics and science at the universities,

though the nine-year Latin course had won somewhat greater privileges for the "Realgymnasium" as early as 1870.

The new course of study for 1882 also brought some changes, notably a reduction of Latin to 77 hours, the concentration of Greek into six years with a loss of 2 hours, *i. e.*, a total of 40 hours, while French gained 4 hours, history 5, and science 9.

In the "Realgymnasium," Latin was at the same time strengthened by the addition of 10 hours, perhaps in the mistaken hope of weakening its popularity with the masses, and avowedly for this purpose the new higher real-schools without Latin were established and given similar rights of admission to the universities upon completion of the nine-year course.

The same spirit of hostility to the "Real-gymnasium" ruled in the conference of 1890, where, under the influence of the emperor, its abolition was recommended; yet the ministry found these schools too firmly established, and did not venture to take action beyond a mild remonstrance and the refusal to establish new ones.

In reducing the number of weekly recitations, particularly in Latin, the effort of the emperor was more successful. The loss of 15 hours by Latin, 4 by Greek, 2 by French, and 2 by history, in the plan of 1892, was only compensated for by a gain of 5 in German and 2 in drawing, thus leaving a net reduction of 14 hours. The average number of weekly recitations was thereby made 28.

The Latin course was likewise weakened in the "Realgymnasium," while in the higher real-school the French suffered. The changes were satisfactory to no one. What the real-schools wished was recognition and equal rights; this was refused, and the classics were weakened in the gymnasium, in the hope of thus stifling the "Realgymnasium." They asked for bread, they were given a stone. The result was as might be expected; the whole system of education was weakened, the strife between the opposing schools was increased. The victory was for the bureaucratic party, at the head of which stood the emperor, yet



their attempt to reduce all schools to two classes, a classical admitting to the university, and a real-school preparing for practical life—*i. e.*, to transform the "Realgymnasien" into higher real-schools by dropping Latin—was an utter failure. The hopelessness of success in any such attempt is shown by the fact that in 1892, of the 540 secondary schools in Prussia only 60 were without Latin.

The weakened condition of the new gymnasium course was recognized by teachers and officials alike, and in 1895 some slight changes were allowed, particularly the adding of one recitation a week in Latin during the last three years of the course. But no slight changes could allay the strife, and so in 1900 a second conference was summoned in Berlin. The bureaucratic party, which aimed to preserve the gymnasium as the only preparatory school, even at the sacrifice of Greek, was overthrown at once by the desertion of the emperor, whose views seem to have radically changed during the past ten years; his present attitude toward the gymnasium is summed up in his own words: "Am Latein halte ich fest, und das Griechische muss bleiben." This policy prevailed, and the gymnasium, instead of being still further weakened, was strengthened, while the real-schools were granted their demand to admit students to the university for the pursuance of all studies for which they are prepared. To obtain the full effect of this permission, it will probably be necessary for the universities, or for some university, to offer elementary work in Greek and Latin,<sup>1</sup> and requests for this have already come from the side of the real-schools, but, so far as I can learn, have received no attention.

In the new course of study published at Halle in the fall of 1901, we find for the gymnasium that Greek, Latin, and English (still optional) are strengthened in the plan and aim of the work, though Latin alone gained in hours of recitation. It now has a total of 68 hours, an increase of 6.

In all the languages a knowledge of grammar and ability to write are insisted on, as well as the knowledge of the literature and of the life of the people.

<sup>1</sup>Cf. WERNICHE, *Kultur und Schule*, p. 248.



In the "Realgymnasium," also, Latin receives the same increase as well as an added emphasis on English, geography, and drawing. Noteworthy, also, is the fact that the final examination, ill-famed for its severity, is to be dropped.

The result seems in general satisfactory, and, while it probably will not end the strife, it at least gives the opportunity for each class of schools to develop along its own lines. The scholars from the real-schools will, perhaps, have a thorny path at the university for some time to come, but they will eventually establish their position in those studies for which they are qualified, and the lecture system of instruction will obviate their doing any harm should they wander into classes for which they are not prepared. This change is of the greatest moment for the "Realgymnasium," which has steadfastly maintained its position in spite of great opposition. The course of study, while not as severe as that of the gymnasium, may still be classed as decidedly strong, for it includes Latin, mathematics, German, history, and science during the entire nine years, while French is studied for seven years and English for six. There can be no doubt that students so prepared will be able to do good work in the university, and I believe we may look for a growth in this order of schools for the future. During the past twenty years they have suffered some losses, both in number of schools and of scholars, but this is fully accounted for by the government opposition. Neither should we think that the gymnasium is liable soon to disappear before the rapid increase of the "Realschulen." We ought not to judge about the tendencies in Prussia from the mass of books, articles, or addresses published each year, for it is a well-known fact that the pig which does the most squealing is the one that can't get both feet into the trough. We can judge better of the real tendencies by observing the growth in the number of schools and scholars, yet even here sum totals are liable to be misleading, unless we note with care both the character of the schools and the proportion of students graduating.

The numbers in parentheses show how many had full nine-year courses.

## NUMBER OF SECONDARY SCHOOLS IN PRUSSIA.

	Gymnasien.	Realgymnasien.	Realschulen.
1882..	282 (249)	167 (89)	51 (12)
1887..	303 (264)	177 (88)	53 (11)
1890..	308 (267)	172 (88)	60 (10)
1894..	318 (274)	166 (87)	84 (20)
1897..	330 (277)	152 (85)	86 (26)

## NUMBERS OF STUDENTS.

	Gymnasien.	Realgymnasien.	Realschulen.
1863..	45,403	15,450	3,841
1887..	85,331	35,192	17,065
1890..	80,979	34,465	19,893
1894..	79,293	31,948	26,998
1897..	79,605	60,438	

Another subject, which will be very interesting, is a comparison of the number of graduates from each class of schools, a matter which American writers on the question have persistently overlooked, but in the books at my command I have been able to find reliable figures for but one year, 1894. However, as even the "Oberrealschule," the youngest of the schools, had at that time been graduating pupils for some seven or eight years, the comparative numbers for this year will perhaps serve our purpose.

## TOTAL GRADUATES FOR PRUSSIA IN 1894.

Gymnasium.	Realgymnasium.	Realschule.
4,214	643	47

When we consider that in 1894 there were 26,998 scholars in the real-schools of Prussia, the number of graduates seems almost ridiculous. The great majority of real-schools are, to be sure, only six-year schools, but even for the ten schools with full nine-year courses, which have been in existence since 1882, forty-seven graduates are hardly a respectable number. As far as preparing students for the university is concerned, the higher

real-schools have been up to this time of little or no importance. There is hardly a more prominent university in America whose kind-hearted dean does not admit more ill-prepared students each year than all the "oberrealschulen" of Prussia could possibly send. But we may take it for granted that most of the graduates of the higher real-schools will go to the technical high schools, as they have done in the past; yet even there they form but a small per cent. Launhardt in a report for 1900, in which he shows that the gymnasium graduates succeed equally well in the technical schools, considers all the pupils who took the preliminary examinations at the Hannover Technical School from 1890-99, and gives the sum totals as follows: from Gymnasien, 583; from Realgymnasien, 588; from Oberrealschulen, 38. These numbers are instructive, for they show plainly that the entire growth of the real-schools has been in the first six years of the course. Furthermore, the abnormal size of this growth is in large measure accounted for by the fact that those who have passed the first six years in this school are entitled to a reduction of the compulsory military service to one year; in this respect its privileges are the same as those of the Gymnasium and "Realgymnasium," while the belief is widespread among the pupils that the course is much easier to pass.

## II. THE OPPOSING PARTIES ON THE QUESTION OF SECONDARY EDUCATION.

Here I shall not attempt even to enumerate all the different parties and positions held, but shall content myself with a brief treatment of those which have thus far been of the most account and have fairly well-defined positions. Yet even this modest attempt cannot avoid both generalization and inaccuracy, for the stronger parties are divided into sub-parties, holding views which differ in some respects, and consequently divisions of opposing parties often hold some one or more essential principles in common.

1. The party of the "Einheitsschule." The name implies the aim. It would reduce all secondary schools to a single type, in which all work should be prescribed. It was earlier

the conservative party, and still is essentially conservative. When the Gymnasium was practically the only secondary school, this party wished to retain it in its monopoly, even at the expense of its most characteristic features. Its aim was a single form of school, which should make good citizens of all pupils and should also prepare them for study in higher institutions or for the various government positions. In its original form the party is really dead, but the very conference of 1890, which marked its funeral, was a decided victory for those adherents of the party, who were willing to accept two forms of schools as substitutes for the one previously desired. Probably this new party has done as much damage as all others to the true interest of education; certainly it has made the most dangerous attacks against Latin and Greek, and has been no less ready to curtail any other important study in the interests of *duality*. Educational officers and other government officials quickly rallied to this form of the party, and the number was also increased by adherents of other parties, who thought to gain something for their particular interests by such an alliance.

The two forms of schools which they favor are the gymnasium and the real-school. It was on this basis, with the assistance of the emperor, that they won the victory of 1890. Of the four avowed objects of the emperor, "relief of overworked pupils," "increase in German," "lessening of the classics," and destruction of the "Realgymnasium," the last three plainly belonged to this party.

The important part which the emperor played in this victory can hardly be estimated, especially if, as is said, the conference which so blindly recommended all these changes had been packed with classical men for quite a different purpose. But the program was too revolutionary to be carried out, and the changes made may be looked upon as a makeshift, and were certainly satisfactory to no one. This probably accounts in part for the ill-success of the measures, for there was no strong party among the teachers who cared to have the plan succeed.

With the desertion of the emperor in 1900, this party suffered a defeat as signal as its previous victory. Instead of two,

there are now four different kinds of schools, all preparing for the university. Thus, even if the Reform Gymnasium of Frankfurt should prove a success, it is not likely to replace the three established forms of schools, but only to remain as a fourth with them. Yet this is unquestionably a creation of an "Einheitschule" party, though not of the dominant portion of it; however, as it seems to work against the original principles of the party and is supported by its own adherents, I shall treat it separately later.

2. The realistic and humanistic parties, or practical *versus* classical education. These are the real opponents in the contest at present. The former would teach only those subjects which will have a practical value in life. They believe that mental training and the development of good taste, morality, and conscience are sufficiently provided for in the same practical subjects, while the ancient languages, instead of giving a higher and better development of mind and soul, actually give a mis-development to them. Instead of making good citizens of the boys, they make young Greeks and Romans of them; instead of Christians, they make heathens.

Just as radical on the other side are many of the humanistic party, who hold that the true, full, and complete training is found only in a system of education of which Greek and Latin are the center and support. The realistic education may perhaps train the observation, memory, and reason, but the higher qualities of culture, judgment and conscience are entirely overlooked, while the due preparation and development for higher studies is omitted.

Such are the views of the extremists of both parties, but the foundation for their views is pure theory, for neither a complete realistic nor an entirely humanistic school exists anywhere in Prussia. In the real-schools the study of the modern languages, though supposedly aimed to attain a practical speaking knowledge of the language, also brings a knowledge of formal grammar, an insight into the literature and an understanding of the life and customs of the foreign people, thus in a measure serving as a substitute for the classical languages. The emotional,

æsthetic, and deliberative qualities of the mind are also trained in the study of German, of history, and of religion, which are required in all real-schools.

On the other hand the course of study of the Gymnasium, which includes French and English, history and geography, mathematics far in excess of our best high schools, natural history and physics, chemistry and mineralogy, drawing and, above all, nine years of German, cannot be said to be entirely without practical subjects.

In accord with these facts we find a large and growing division of the opposing parties who believe in living and allowing to live. They recognize the good points in all the different forms of schools, and while they differ as to the exact field to be covered by each kind, they do not deny that their opponents have a right to exist.

We even find conspicuous moderates, who admit special excellencies in the system of their opponents, as Professor Christian Muff of the Landeschule Pforta, a pronounced classicist, who acknowledges the special fitness of the Realgymnasium to prepare students for the study of medicine, though most *doctors* take the opposite view.

On the other side we can mention the famous physicist, Hermann Helmholtz. In a speech a few years before his death he said:

The classical languages have a superiority over the modern as a *vehicle for mental training*, since the native language and the other modern languages, which are learned chiefly by oral practice and imitation, or in so far as they are so learned, cannot so exercise and develop *intelligent, logical thought* as the classical languages with their full system of inflectional endings and their concise and elaborate methods of showing the grammatical relation of the individual parts of the sentences to each other and to the whole.

Undoubtedly this difference in educational value between the classical and modern languages has been emphasized in Germany by the extent and thoroughness of the work in the classics and by the predominance of the oral method in the teaching of modern languages; and to these additional reasons we may attribute the quite general acceptance of a position on the subject similar

to that of Helmholtz. It is this admission of the inferior educational value of the modern languages in the real-schools, rather than the actual need of a knowledge of Greek, that has so long caused the refusal of free admission to the universities for their graduates. It was the violation of this principle that caused the absolute failure of the school reform of 1892; for the classics were diminished and weakened without anything being put in their place, or any compensating change being made in the method of instruction.

My attention was first called to this condition in 1897 by Professor Emil Hübner, of the University of Berlin, who from his position on the examining board had a very good chance to observe the working of the new course of study. His summary of the results up to that time was as follows:

The ability to read Greek and Latin and the knowledge of the literature has not been much weakened, but the power to write Latin is ruined, while, worst of all, there is manifest an actual decrease in mental power.

Still more explicit is Professor E. Meyer in the January number of the *Zeitschrift f. d. Gymnasialwesen* for 1901, p. 4:

The decrease in hours for the ancient languages, which was brought about by the previous course of study (1892) has not given warrant for its continuance. Although the pupils of this generation are in general ability on a level with those of former generations, yet as early as "Upper Tertia" there is noticeable, in comparison with those former pupils, a decided decrease in mental training, capacity for thought, power of judgment, individuality of conception and in the art of studying. That there should be a less sure and comprehensive knowledge of the classical languages is natural, but that is much easier to bear, than that undeniable weakening of the mental power and the deficiency in scholarly training.

These two opinions will perhaps suffice to show the views of the majority who brought about the restoration of the classics in the new course of study issued last year. The completeness of the victory is further illustrated by the strengthening of Latin in the "Realgymnasium," while the bitterness of defeat for the opposing party was in great measure removed by the granting of practically equal rights of admission to the universities. Thus both parties are in a measure satisfied, and we have a right to look for less bitter contests in the future.

3. The Frankfort Reformgymnasium (formerly known as the Altona plan). As we have seen above this was started as an attempt to find a single type of school, which would satisfy all the requirements of a university preparation and which would also enable the utmost postponement of the moment, when the pupil must decide between university and a business life. In this plan, as a whole, it seems to have no prospects of immediate success, for though it may supplant some of the Gymnasiums, it is altogether too classical to suit any of the realistic party. Yet it has many supporters, particularly in the humanistic party, so that its real destiny, if it succeeds, will be to increase rather than to diminish the variety in the types of secondary schools.

The special features of the reform-gymnasium are three: the beginning of language study with French; extra allotment of time to each study in its beginning; the retention of the Greek course in full. This is accomplished by a nine-year course in French, beginning with six recitations a week, but dropping to two recitations, when Latin begins in "Untertertia." The latter has ten hours a week for two years, then eight for the last four years. Greek begins with "Untersecunda" and has eight hours a week for four years: According to the emperor and the convention of 1900, this course of study has proved a success, but in the Prussian courses of study for 1901, it is alluded to as still in the nature of an experiment.

Even the most classical of the friends of the old gymnasium admit the success with which Greek and Latin are pursued, however they may explain it. The intensity of the effort, though for a shorter period, and the fact that another foreign language precedes are probably the true reasons, though the excellence of the teachers and the exceptional character of the scholars in the Frankfort Gymnasium may have assisted the result.

In mathematics the result seems not to be so favorable, and the reform is condemned by H. Vogt, *Neues Jahrb. f. d. Klass. Altertum . . . u. Pädagogik*, 1901, p. 208, and by Professor Simon in *Baumeister's Handbuch der Erziehung und Unterrichtslehre*, p. 34. The criticism aims entirely at the excess of mathematics in the first three years and the weakening of the same in the last four



years of the course; according to Simon "they overload the *children* with mathematics, but let the *young people* go hungry for lack of it."

Both German and the sciences make some slight gains in the lower classes, but not enough to make the school popular with the realist; in fact, in spite of the reduction of hours in the classics, the school remains humanistic in its tendencies and must look to this party for its future support.

In summing up the present condition of the contest in Prussia, I cannot forbear quoting the following sentence from Russell (*German Higher Schools*, p. 399): "When classical education breaks down in Germany, classical culture will vanish from the earth, unless perchance a better than Germany arises." That is a good deal like saying that "when the sky falls, we shall catch pigeons," though he doubtless did not mean it in that sense. The absurdity of the supposition is shown by the classical reaction of the new course of study, by the eagerness of the "Real-gymnasium" for more Latin, and above all by the satisfaction with which the recent reforms have been met even by supposed opponents.

As an illustration of this I quote from the address of Professor Kannengiesser before the Strassburg Philological Conference, October 3, 1901. While pleading for an increase in the number of hours to be devoted to German, he says:

"In the gymnasium *now*, as *previously*, the classics must remain the central point of the instruction." The gratification over the cessation of strife and the acquiescence in the changes seems widespread in Prussia, and we may feel confident that the present reform will at least receive a much fairer trial than fell to the lot of the reform of 1892. In spite of evil prophecies to the contrary, Germany will remain the home of the classics, and the Gymnasium will still continue to furnish that education which Goethe has so nobly described in the words:

A noble man, in whose soul God has placed the capacity for future nobility of character and majesty of soul, will be spiritually and mentally developed by the acquaintance and intimate intercourse with the sublime nature of Greek and Roman antiquity, and with every day will grow perceptibly nearer to a similar greatness.

## III. APPLICATION OF THE PRUSSIAN EXPERIENCE TO OUR OWN HIGH SCHOOLS.

What have we to learn from the Prussians? First, moderation and judgment, avoidance of overhasty changes, and thorough discussion in advance of all proposed reforms. Discussion is perhaps a mania with German schoolmen, but the certainty that all reforms will be thoroughly considered and their results prepared for and discounted in advance is a pledge for stability and good sense and a guaranty against rash and overhasty changes. In other words, before they leap they try to discover where they are going to land. They may not always succeed, but the attempt even is worthy of imitation. Here in America overhaste and arbitrariness are our besetting sins. One superintendent drops Greek, where it is earnestly desired; another puts it in, where there is no demand for it; and both probably neglect English, while they pursue their rival hobbies. The right to make vital changes in the course of study, whether it is really in the hands of the superintendents or of the boards of education, is a dangerous power, and they cannot be too often advised to make use of it only after mature consideration.

Even in the universities the case is no better; but I hardly need to give examples of this, since many of my hearers doubtless remember a case where a university completely changed its degrees first, postponing until afterward the free discussion of the matter and the arrangement of the requirements for graduation.

Another point where we can draw an instructive parallel is in the number of hours of recitation. In Prussian schools the minimum is twenty-eight per week, with us sixteen; as a result the recitation with the Germans is devoted chiefly to real instruction, while here it is rapidly degenerating into a mere quiz hour. This is the real fault in the recent recommendation of four-hour courses for the high schools. There is no proportionate decrease in the amount of work required, therefore the recitations have become more and more overloaded with work, the home study of the pupil is further emphasized, the teacher is robbed of his opportunity to teach, and the school degenerates into an office,

where the scholars report the progress made. In my school days twenty-three to twenty-five recitations a week were the rule, but with every decade it has fallen, each time under the pious pretense of relieving the overworked pupil. Now let me say frankly that I don't believe the high-school pupil is overworked, but, granting that he is, or was, this is not the way to relieve him. If there be any overtaxing of the pupil, it is in the ill-directed home work, and here let the reform be made, but give him more and better instruction.

Another crying evil of our high schools is the lack of continuity in many of the subjects. In the German gymnasium Latin, German, religion, history, and mathematics are continuous throughout the whole nine years' course, and through these its good results in the development and training of the mind are made possible. We cannot hope to equal this, but we can at least bridge over better the break between grade and high school. Let the emphasis come first on English and let the instruction in it be made a systematic whole, instead of the abrupt break at the close of the grades and the lessened attention during the high-school course, which we only too often find.

History and mathematics could also be made continuous throughout a long period of the two courses with the same good results. In the case of mathematics this could, I believe, be well combined with a change in the distribution of hours, so that the high school should receive more and the grade schools less. On this point we can perhaps learn most from the mistakes of the Germans, for it is especially on account of the over-crowding of the early years that the mathematical course of the reform-gymnasium has been widely condemned. The condition in the "Realgymnasium" is almost as bad, and in the higher real-schools it is still worse, for the excess of mathematics compels most of the work to be taken up before the pupils are sufficiently developed to appreciate it. At the Berlin conference of 1890, Professor Hauch, of the Technische Hochschule at Charlottenburg, said that the graduates of these two latter classes of schools, in spite of the extra time put on mathematics, were only apparently more advanced than the Gymnasium graduates, and as an offset

to that, showed a deficiency in interest and in mathematical power.

Probably the point in which we differ most from the Germans is in the time of beginning foreign language study. There it is at the age of ten, even in the real-schools, here it is at the age of fourteen. And yet I believe that no one will deny that it is particularly at the younger age that language can be learned with the most ease and real appreciation of idiom, especially if that language be a modern one and taught orally, thus placing the emphasis on the memory and the power of imitation. This is the plan of the reform-gymnasium of Frankfort, and the success it has achieved there in the face of determined opposition and criticism, often unfair, should lead us to give it earnest consideration. If we could introduce a modern language into the last two or three years of the grades I am sure it would prove as great a success here as it has there, and would not only strengthen the work of the grades, but would also make the work of the high school easier and the results of the same greater. It would, further, be possible to continue this modern language with two or three recitations a week in addition to the regular work of the high-school course, unless we insist upon the present suicidal decrease in the number of recitations weekly.

I had intended to close my paper with a résumé of the German discussions and experience on the subject of practical and disciplinary studies, but I have decided that there is but little new here. They have carried on the discussion on the same general lines that we have, though perhaps with more earnestness. There, as well as here, you can find those who object to disciplinary studies, such as Latin and Greek, on the ground that they are unpractical, but, doubtless, the same persons are still in that stage, where they oppose gymnastic exercises for the development of the body, and think it would be better for the boys to saw wood and the girls to wash dishes. That certain studies have a greater disciplinary value than others is as assured a fact as that others have a greater practical value. Yet all the subjects in our high-school curriculum possess disciplinary value, and that in no small degree, so that here the question

should not be concerning the rejection of any studies, but rather how the present studies may be best accommodated to the varying mental powers of the pupils of different ages. As an example of this we may cite the case of the modern languages. A few years ago they were studied practically in the same manner as the ancient languages, but now the justly praised conversational method is the dominant one. By the change they have gained in practical value, but have lost in disciplinary power, yet this very fact makes them better adapted to an earlier place in our school system, and may well be used as an argument for putting either German or French into the grades—a change which I have discussed above.

I cannot close without taking a parting shot at the so-called practical studies, which many insist should be the only studies of the high school. I believe the idea is a mistaken one and that the studies should be arranged in general according to their disciplinary value, but, supposing we wished to give a preference to practical studies, the question would arise, what are the practical studies? In my own case I can affirm with certainty that Latin, Greek, and English were the practical studies of my high-school course, and I also imagine that if I should ask this question of all here present, I should get an immense variety of answers, and that English would be the one study included by all. This, then, is the one universally practical study of the high school, and, as such, can lay claim to a certain precedence in arranging the course of study; all other subjects must defend their position chiefly on the basis of their disciplinary value.

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## THE USE OF LITERARY MATERIAL IN TEACHING COMPOSITION.

It is easy to recognize a vital relation between the appreciation of literature and the writing of good English. To decide just how literary material should be applied in practice to the teaching of composition is quite another matter. There are three ways, not always consciously discriminated, in which this problem has been met; all three are, in varying degrees and in various combinations, in use at the present time. In deciding among them, we have to recognize that we approach the question not as propounders of the science of rhetoric, nor as students of the art of rhetoric, but as teachers of composition. We are interested to know, not how writing might be explained or how it could be learned, but how, given our pupils such as they are, it should be taught.

The first two of these methods have almost always, in works of rhetoric, been unconsciously confounded. They are alike in teaching by authority, but they vest this authority in different ways. The one submits to certain empirical rules, actually drawn, doubtless, from personal experience and from the masterpieces commended by success, but stated from the first in a dogmatic manner. In this method examples are used merely to illustrate the rules. The other method takes as models definite works of literary art, which are to be imitated either in general, or in respect to their processes as discovered by a fresh and personal analysis. One method has an abstract and absolute standard of excellence, the other a concrete and varying object of imitation. As far as the individual pupil goes, the one method makes literature a servant; the other, a master. Different as these two methods are, they were always confused by the ancients. More recently, however, the two methods have been more clearly discriminated. The rhetoricians proper have for the most part followed the former system; that is, they have held allegiance to empirical rules, using examples to explain,

commend, and enforce them. The rules chosen have been those formulated by Aristotle, Cicero, and Quintilian, which, translated, retranslated, and reworded, but scarcely changed or even developed, have been the basis of rhetorical teaching for centuries. As late as Campbell and Whately they were still used. Indeed, the rhetorics upon which some of us at least were brought up, the rhetorics of Genung and Hill, are, for all their interest and rationality of presentation, based on the same empirical rules, illustrated by similar examples. Mr. Genung, in fact, frankly states in his preface that he shows how a "rhetorical principle looks in application," because then the student "cannot gainsay it." There are still few text-books indeed that are entirely without traces of this system of dogma, enforced or recommended by examples.

A system so honored during long ages and firmly entrenched in almost universal practice certainly deserves respectful consideration; yet it is plainly an instance of dogmatism. It practically says: "There is only one way to write well; see all these great men who have followed this way; or if in particular they did not follow it, so much the worse for them. Do you also, therefore, follow the appointed path!" Such dogmatism in other spheres of opinion has been gradually retreating before the independence of Protestantism, and the new information given by science. But the fortunate human habit of applying logic fiercely to one tradition while all the others pass unquestioned, has let independent men submit to dogmatic rhetoricians for centuries after they revolted from a dogmatic priesthood. The first objection, accordingly, to using literary material as the aid and ornament of an arbitrary rhetoric, is that this system is both unprotestant and undemocratic.

The test we fixed upon as decisive, however, is the pedagogical one. Is the use of literature to commend dogma the best use from the point of view of the teacher of composition? The system would mean for us that, by the authority of big words and great names, assisted by the peaceable dispositions of the pupils, we hold up for them to work by some "rhetorical principles," or "literary standard," or whatever you like to call

it, which is not the outcome of their own untrammelled thinking. It is a platitude of psychology that it is things wrought out by the individual that best stick in the memory, and that most widely by means of complex associations permeate all thinking. The imposing of an exterior standard does not call into play independent individual activity; therefore its banishment from our American system of teaching is assured.

The second method in which literary material has been made to serve the ends of teachers of composition is, we remember, through imitation. This may take either of two forms: it may consist of the copying, consciously directed or in vaguely general way, of individual masterpieces; or it may begin with the dissection of these masterpieces to discover the methods on which they have been constructed, which the student is then to apply. Neither of these forms, however, is often found unalloyed; they are confused and combined with each other, and with the contrasting method of submission to an external standard.

The great objection to this system Lewes, in his "Principles of Success in Literature," has very clearly stated as follows:

The fallacy about models is seen at once if we ask this simple question: Will the practice of a great writer justify a solecism in grammar or a confusion in logic? No. Then why should it justify any other detail not to be reconciled with universal truth? If we are forced to invoke the arbitration in the one case, we must do so in the other. Unless we set aside the individual practice whenever it is irreconcilable with general principles, we shall be unable to discriminate in a successful work those merits which *secured* from those demerits which *accompanied* success.

What does it mean, then, it might be asked, that so many of the great writers themselves have commended this method, and have in some cases proclaimed it as the one by which they themselves actually learned to write? Hazlitt, Symonds, Franklin, Mr. Howells, Stevenson—names enough come to mind. But Lewes himself says that one thing may be learned through the use of models; that is, "a nice discrimination in the use of the symbols which intelligibly express the shades of meaning, and kindle emotion." Both for the rudiments of language and again for the higher and more subtle qualities of style, we are obliged to imitate. We must accept the conventions of spelling,



punctuation, grammar, and vocabulary; and at the other end of the scale, we must, at least in the present stage of acoustics and æsthetics, train our ears by the harmony and cadences of those who have by nature ears more keen than we for the music and suggestiveness of articulated sounds. In babies, and in mature and advanced students of literary art, imitation is desirable and necessary. We teachers of composition, however, ought not to be occupied with teaching either the rudiments of language or the higher subtleties of style. We must notice vocabulary, of course, and some of the more obvious audible qualities of composition; but it is the larger matters, choice of material, arrangement, and structure, that should occupy us most. The other things will come unconsciously, in the degree we need them, through any systematic use of literary material; and consequently we need not take them into account in deciding what system we shall choose.

The form of imitation which consists of applying methods learned from the analysis of the classics needs perhaps a little separate consideration. "Such a book has conveyed its meaning," it says; "I will see what methods it has used, and copy them." This form of imitation seems safer than simple copying, and more rational than the use of literary material to inculcate the empirical rules that were imposed by some external authority. Yet the objection of Lewes is almost equally valid here; unless countless examples are compared, it is not certain whether the practice discovered by analysis is the cause of success, or only the accompaniment. Such rules are still empirical, and still, in a sense, dogmatic.

Even granting the comparative safety of the method from the literary craftman's point of view if sufficient examples be taken, there remains to apply the more pertinent pedagogical test upon which we agreed to base our conclusions. Is imitation, whether of style or of method, a good principle to use in the teaching of our pupils? The objection to the first system, that there was no place for personal activity, holds equally in the case of direct imitation. In regard to the appropriation of methods by means of analysis, it need not be true in the same

degree ; for the pupil can be led to analyze and appropriate for himself. There is, however, another objection which applies equally to the two forms of the system. Our pupils, as a rule, are already only too liable to the kind of imitation called, variously, conventionalism, sentimentality, and lack of personal observation. The thing of all others that we have to work most for is that the students should dare to look at things with their own eyes, and believe things on their own responsibility. It would be absurd to overthrow the unsteady results of so much painstaking by a system confessedly based on imitation.

Two methods of using literary material in teaching composition we have found open to grave objections. We have now reached the consideration of the third. The path to it was indicated by Lewes, in the closing sentence of that section on "Imitation of the Classics" which was quoted before. He says :

A true philosophy of criticism would reduce these empirical rules to science by ranging them under psychological laws, thus demonstrating the validity of the rules, not in virtue of their having been employed by Cicero or Addison, by Burke or Sydney Smith, but in virtue of their conformity with the constancies of human nature.

These "constancies of human nature" and scientific rhetorical principles are at last being sought out with an eager industry that is well known ; but all attempts at formulating the principles of rhetoric still show great tentativeness and diversity. For the teacher of composition this is certainly a perplexing and tantalizing state of things ; yet it is not without its advantages. Each teacher has to make his own rules, those which, after all, work best ; and he finds it more natural to lead his pupils to do the same.

If then, our principles being grounded in the truths of psychology and formulated by the pupils themselves, are neither based on the practice of great authors nor dependent on them as unconscious advocates, in just what manner are the practice of communication and the appreciation of the great examples of it—really, as we saw, so closely related—to tell upon each other in our teaching? The impossibility that composition should thrive divorced from literature is evident very early in any theme course. When the student has been led to formulate,

by watching his own experience, certain principles as to how he can best convey to his audience what he wishes to tell them ; after he has tried to put these principles in practice in his later work ; then, when the novelty has worn off, there is danger lest he lose ambition and ingenuity, and fall back into the old habit of just grinding out a theme. From this stage on, he needs to have kept before him these facts : that this process of communication he attempts is, in its degree, the same as that of literature ; that the problems he finds in describing the landlady's character by means of her waste-basket, are the problems triumphed over by great novelists ; that subjects that may seem to him a little sterile in suggestiveness have been actually treated by the masters so as to be excitingly interesting ; and, more important still, that his own work is, in comparison with theirs, not so very successful after all. Our third system, then, is one, not of imitation, but of emulation, or, better still, of stimulation. We read Thackeray and Stevenson in class for precisely the same reason that we read the better work of the students. We read themes, do we not, because this gives a chance for active class discussion of the nature and success of the means used ; because it tends to show what interesting material all the students have at hand, and how clearly and entertainingly it can be presented ; and because it rouses ambition both in the student whose work has once been read, and in the others who would like to do work worthy of that honor ? Now literary material, skilfully chosen, not only does all these things in a far greater degree, but it excites a worthier and more efficient ambition. The ambition that would do well in the sight of the other students, that would perhaps do well to get ahead of the other students, is a normal human motive, which, as teachers, we are justified in turning to account ; yet it is a pitiable waste of time and energy. The impersonal ambition, on the other hand, that keeps the end alone in view, unpreoccupied as it is by excited dreaming about consequences, results in a less divided energy, calmer and steadier work, and a clearer sight of whatever may be the subject for the day. To promote a constant sense of ends at once high, delightful, and definite, towards which the students are helping each other on—

this is the great use of literature as applied to composition.] By using it in this way we reach, in a far higher degree than by either of the other methods, the real aim of modern pedagogy, the rousing in the students of the greatest possible amount of enlightened yet independent activity.

In deciding upon the practical methods by which to apply this system, we must not forget the vital relation which we recognized at the beginning between the two parts of instruction in English: teaching the students to write and teaching them to appreciate. Our use of literary material, then, should not only stimulate them in composition, but give them, some such notion of the charm of books as will induce them to read much and intelligently on every Saturday and Sunday from October to June, during the Christmas and Easter holidays, and through every summer.

When we ask ourselves how to meet this double problem of rousing by means of literary material the greatest possible amount of personal activity both in writing and in reading, there are two distinct questions that come up for consideration. We need to decide on what grounds our literary material should be chosen, and in what manner it should be presented and discussed. We will take up these questions in their order.

The extracts chosen, it almost goes without saying, should be valuable in themselves from a literary point of view. We have no time to give to illustrations taken out of *Munsey's*, however apt and timely they may be. Passages should not be quoted merely for mistakes, except in rare instances where the faults are unmistakable and ridiculous; above all things, they should not be chosen to illustrate mistakes really made by the students; they should never, for example, contain a touch of sentimentality. Every moment we let the students spend in considering the common is so much time taken from getting the desired stimulus from the excellent. Let us remember, then, to work chiefly with material that is really literature.

The material used, however, excellent as it ought to be, should not always obviously illustrate the principle under discussion. There is nothing more conducive to the lazily acquies-

cent state of mind we are so anxious to do away with, than to let the pupil feel "it must begin with general effect, or it would not be read." Fortunately the world of books is large; every stated principle has been ignored by some men, especially less modern men, who are nevertheless truly great; and has been neglected sometimes by men who in general put it in practice. We can accordingly find many illustrations that are good as literature, without being too good for open-eyed discussion. A particularly useful class of illustrations tending toward the same end consists of those cases where a different principle from the one under discussion is being rightly applied. Such inapplicable illustrations need not be common, but they should be given often enough to keep the students alert and independent.

The material selected, again, may well be often such as deals with the present time, and with the homely facts of the students' own experience. Let them see what Miss Wilkins and Stephen Crane have done with such material. An equally fresh treatment of foreign scenes may often have a similar result. Give them to begin with more realism than idealism, and rather frank crudeness than polished elegance. The evidently sincere attitude of such work is contagious and inspiring, and the danger of imitation is proportionately small.

Another test of what selections to choose is that they should be interesting enough to waken the desired activity in the students' minds. This does not mean that they should ever be, or need ever be, merely entertaining. There is hardly a more mischievous mistake than to think that the average student, with his wits sharpened by class hour, does not enjoy a little difficulty. He is, on the contrary, eager and proud to puzzle over things. A good stiff bit of Pater, presented as a challenge to the students' intelligence, has brought fairly good results. There was, however, a general brightening of faces when the next illustration proved to be a description of the *Squirrel Inn* from Stockton. That brightening was perhaps partly due to the variety, which, indeed, is always necessary for the keeping awake of interest, as well as for that keeping in view of the boundless possibilities at which we aim. Extracts from books already familiar prove often

interesting, and are valuable, pedagogically, in still another way, in that they link the new to notions already in the mind. For this reason the works included in the college entrance requirements should in preparatory schools be drawn upon at every turn. Any statistics on books read by the students, too, can give helpful suggestions. From such inquiries it is clear that most young people have read *David Copperfield* and *David Harum*, and that most of them have read some of Hawthorne and George Eliot. When neither the author nor the book from which the extract is taken is familiar, it should at least afford some possibilities of being linked to former experience either through its subject-matter or through its associations.

Yet, needful as it is to quote from books already familiar, because their familiarity makes them interesting, it is even more needful, if we are to teach composition as part of a wider course in English, to arouse interest through the means just spoken of, in masterpieces that are still unfamiliar. We are not merely to teach to write by using old associations, but to teach to read by developing new ones. One pupil has been enough interested by extracts read in class from *Travels with a Donkey* to read the book through. Another copied the names of some of the books from which passages had been read. We should not, however, be satisfied with a few sporadic cases of interest; there are ways of consciously, if indirectly, increasing the number. It does something just to tell the name of the book and its author, and to take into class, not a book of extracts, nor a copy of the passage on a piece of paper, but the real book itself. It does more to find out what individuals can tell of the author and of the book in question, and even to add an interesting fact or two of one's own, that may in some way afford a link to ideas already familiar. It is useful to refer to the same man more than once; yet on the other hand, it is well to give a taste of a great variety of books, prose and poetry, biography, essays, travels, drama. The books chosen should not always be modern, or even always English. What we chiefly need to do is every day to give some tantalizing glimpses of new worlds. Such indirect suggestions, that do not tell the pupil that he ought to read, but let him guess

how much he might enjoy reading if he tried it, ought surely in the end to bring about in some few of a class an actual increase in first-hand knowledge of literature.

So much for choice of material in general. The decision as to what is to be used in any given class on any given day depends on so many things that it is hardly possible to make suggestions about it. There have to be considered the needs of the special class, both permanent and momentary; the tastes and critical tendencies the pupils have shown themselves to have; and whatever links to new material may have been afforded by recent themes, discussions, or previous quotation. It is often well to bring in illustrations of the masterly treatment of a subject similar to that of themes recently written and just discussed. We can say in general, too, that each selection should consider the actual position of the class, and aim at some real and definite advance; but for the rest, we should remember in each separate case that our aim is to stimulate the students to the greatest possible amount of personal activity both in writing and in appreciation, and decide accordingly.

If, then, it behooves us to make use of illustrations from the whole field of literature, old and new, native and foreign, familiar and unfamiliar, of passages apt and not too apt, by all authors from Kipling back to Chaucer and beyond, and of passages intimately adapted to the actual needs of each individual class—then, doubtless you are thinking, Where in all the busy week are we to get the time to hunt them down? For illustrations that, as vaguely remembered, seem just the things we want, prove, after being looked for in half a dozen books, to be quite different from what we remembered; and there is another hour wasted. This difficulty of finding illustrations is a very real one. One expedient, useful for many reasons, is to get the pupils to do the hunting for you. Let them bring their books to class and read the passage; or let them give you references, made out in the regular form, with publisher, date, and the rest; or, when in the course of discussion in class they refer to some passage as an illustration, ask them to show it to you, or to hunt up for you the exact reference. You get at least a small proportion of



illustrations intrinsically valuable for interest or aptness; and all are illustrations actively chosen by the pupils themselves. In enlarging their horizon, however, not much can be done in this way; for this, the passages must be selected by the teacher.

Even more important than choosing good material is the wise handling of it. It may be used either in class or in personal interviews; but, since the latter application must vary so widely according to the individual student, and since all the generalizations it is possible to make about this can be derived from those that apply to the use of such material in recitation, we may confine ourselves here to a consideration of how it may be used as a part of class work.

However interesting and pertinent the extract read, it needs always consciously to be presented as something vital, and it will almost invariably gain in effectiveness, as has been already suggested, by being connected with past experience; otherwise the lively personal activity we seek is not aroused. The questions and remarks about author and book, spoken of in another connection, are important for this reason also, and so are the very manner and delivery.

Suppose, now, that the class is interested and eager to begin discussion; how shall this discussion be directed so as to end in just the desired advance? If we have brought up the particular extract *à propos* of some problem already attempted and talked over by the students, the discussion will usually take of itself the desired direction. Sometimes a skilful question is of use, or the calling attention beforehand to some problem on which you wish opinions. Occasionally the class will find for itself a topic more helpful than the one intended by the teacher. But desultory chatter in class-hour is not more desirable when about literature than when about any other subject. The guidance should, of course, be indirect and little apparent, but it should always be directed toward some real and definite aim. It is not enough to plan that a given extract should stimulate to personal activity; we need to have in mind one particular kind of activity. Many such have been mentioned or implied already. Let us collect them here. In the first place, the discussion may include



a decision on the success of the illustration read. The students should state how completely they receive the impression the author intended to convey. That effort trains the critical power in a sane direction, and at the same time exercises the imagination, through conceiving suggested images, in a way that strengthens the power of forming original ones. Secondly, the discussion may include a consideration of the means employed to produce the impression, and especially of any applications of whatever principles the students have evolved for themselves. By this means new brain paths of association are established that confirm them in memory, interweave them more intimately through the field of thought, and vastly heighten their significance and develop their possibilities of application. Doubtless it will sometimes happen that a new method of application will be directly suggested by an extract; in such a case the students should be led to judge the method for themselves, and to apply it, not because it was used by Scott, but because, having noticed it in Scott, they find it rational.

After so much detail, let us in conclusion, lest we forget the end in the means, remind ourselves of the principle upon which all these detailed methods have been based. The aim of the teacher of composition in his use of literary material, we decided, should be to stimulate the pupil both to read and to write with independence, ambition, and energy.

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## AUTOMATIC DIAGRAMS IN GEOMETRY.

ONE of the great obstacles met with in the study of elementary geometry as presented in the current text-books is the needle-in-the-haystack method of presentation of the symbols used in the diagrams. For instance, every angle under discussion requires for its recognition in the diagram three acts of perception (recognition of three letters). The designation of an angle in the argument requires the recognition of three symbols in the text and the selection of three more from among the many presented in the diagram. If the concept could be symbolized by a single letter instead of by three, the labor of perception with its accompanying recognitions and judgments would be greatly reduced.

Under the current system, the student is bewildered by the wilderness of letters and his energies are taxed, not in grasping the concept or argument, but in trying to disentangle the mass of letters and in finding what concept they are intended to symbolize. He is so confused and worried by this needle-in-the-haystack puzzle that the relations between the concepts are not readily grasped. The mass of letters on the page is not readily visualized into a concept. How much clearer the concept and quicker the grasp and firmer the grip if instead of  $\angle ACB$  the reader sees one letter,  $C$ .

I present here a system of notation which seeks to avoid the difficulties specified above. It has been tested in class-room use with great success, with scholars of all ages. It has been a common experience after presentation in this notation of a theorem ordinarily confused and complicated to hear the exclamation—"Is that all it is! Why, that's easy!" The illustrations given below will show the foundation for this exclamation.


One of the gains is that from the diagram alone, in many cases, the student reads the proposition, the demonstration, and the conclusion; and in most cases with only a few lines of added

text. It saves the time of the student, as he has far less typography to interpret, far less lettering to do, and a minimum of explanatory context to make, either verbal or written.

It saves the time of the teacher, for a few seconds' inspection of the diagram tells as much of the student's idea of his hypothesis, argument, and conclusion as the same number of minutes devoted to the current method of demonstration. A glance at the diagram enables the teacher to put his finger on the exact break in the student's procedure without any question as to the student's mental processes; the diagram shows exactly the order of his different steps. A mistake in his premises is shown instantly. If his first step in demonstration or construction is wrong, however complicated the diagram may be, its detection is instantaneous.

Instead of a mass of letters without order or system—or worse, an arbitrary and haphazard order burdened on the student's memory in order to save the teacher's time—the number of letters is reduced to a minimum, the order is natural (alphabetic) and therefore no burden on the memory, and each letter opens up to the teacher the story of the student's mental procedure. There is no question of how this or that was done, or what was done next; the diagram, with an occasional addendum, speaks for itself. The energy of the student and teacher is concentrated on the logic of the subject and not wasted on the typographical interpretation. If clear type, good paper, etc., are a help, so also is a clear, simple and automatic notation.

*Lines* are designated by lower-case letters; *angles* by lower-case Greek letters (or where preferred, by English capital letters); *points* and *planes* by capital letters; *areas* by capital letters enclosed in a circle or rectangle or underscored.

*Given parts* are designated by heavy lines and by the *middle* letters of the alphabet beginning with *l, L, λ*, 

*Construction parts* are designated by light (or dotted) lines and lettered with the earlier letters of the alphabet, beginning with *a, α, A* according as the part is line, angle or otherwise.


Parts *given for discussion* or concerning which some statement

is made or required in a problem are designated by the latter letters of the alphabet,  $u, v, X, Y, \phi$ , etc. An open dot  $\circ$  (small circle), would indicate a point under discussion.


*Required parts* in construction problems are indicated by being drawn in double lines.

Letters with *primes, seconds*, etc., indicate that the magnitudes they represent are the same. The primes, etc., are used to indicate difference of position only.

Letters with *subscripts* indicate different parts of the same magnitude, line, angle, etc., or parts so intimately connected that they may be considered as belonging to one operation; or parts whose order of construction is indifferent; or parts which follow immediately and closely in order of construction, as consequences of each other, the order, if any, being indicated by the subscripts.

Parallelism of lines is indicated by connecting the parallel lines with a dotted sigmoid line, arrowheaded at the ends and crossed by the sign of parallelism, .

Right angles are indicated by a small quadrant or a small isosceles right triangle at the vertex.

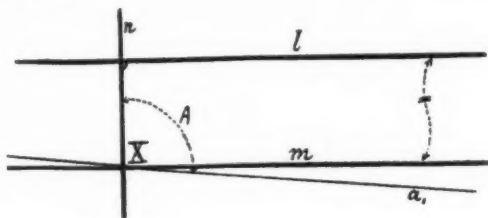
Where the length of a line is given but its position not specified, it is indicated by a light line with heavy arrow heads, .

Coincidence of lines, or congruency generally is indicated by  $\equiv$ .

To illustrate the contrast of methods, the two systems of notation are presented in parallel columns, the automatic system, to show its potency, being condensed more than would perhaps be advisably in a text-book.

For typographical reasons English capital letters have been used instead of Greek letters for angles.

1) A straight line perpendicular to one of two parallels is perpendicular to the other.



$$A = \text{rt. } \angle$$

$$\therefore a_1 \parallel l$$

(two straight lines  $\perp$  same line, etc.)

$$\therefore a_1 \equiv m$$

(through one point only one  $\parallel$ , etc.)

$$\therefore X = \text{rt. } \angle$$

Q. E. I.



GIVEN lines  $AB$  and  $EF \parallel$ , and line  $HK \perp$  to  $AB$ , and cutting  $EF$  at  $C$ .

TO PROVE

$HK \perp$  to  $EF$

PROOF.

Suppose

$MN$  drawn through  $C \perp$  to  $HK$

Then

$MN$  is  $\parallel$  to  $AB$

(two straight lines  $\perp$  same line, etc.)

But

$EF$  is  $\parallel$  to  $AB$

$\therefore EF$  coincides with  $MN$

(through one point only one  $\parallel$ , etc.)

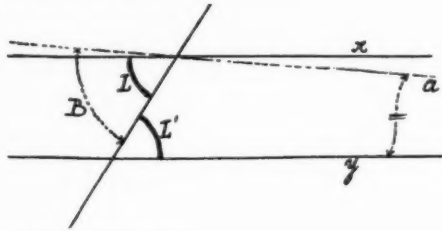
$\therefore EF$  is  $\perp$  to  $HK$

that is

$HK$  is  $\perp$  to  $EF$

Q. E. D.

2) Two straight lines cut by a transversal making the alternate-interior angles equal are parallel.



$B = L'$  (alt. int.  $\angle$  s of  $\parallel$  lines)

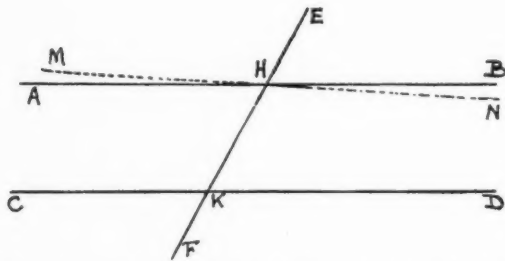
$= L$  (by hyp.)

$\therefore a \equiv x$

But  $a \parallel y$

$\therefore x \parallel y$ .

Q. E. I.



Let  $EF$  cut the straight lines  $AB$  and  $CD$  in the points  $H$  and  $K$ , and let the  $\angle AHK = \angle HKD$ .

TO PROVE

$AB \parallel CD$

PROOF. Suppose  $MN$  drawn through  $H \parallel$  to  $CD$ .

Then

$\angle MHK = \angle HKD$

(alt. int.  $\angle$  s of  $\parallel$  lines)

But

$\angle AHK = \angle HKD$

Hno.

$\therefore \angle MHK = \angle AHK$

$\therefore$  these lines  $MN$  and  $AB$  coincide.

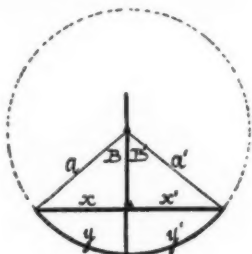
But

$MN \parallel$  to  $CD$

$\therefore AB$  which coincides with  $MN$ , is  $\parallel$  to  $CD$ .

Q. E. D.

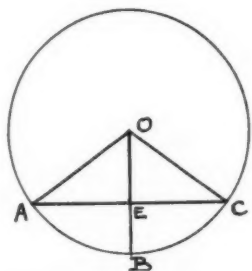
3) A radius perpendicular to a chord bisects the chord and the subtended arc.



Since  $a = a'$   $\therefore x = x'$ .  
 (= oblique lines cut off = segments, etc.)  
 $\therefore B = B'$   
 (oblique lines cutting off = segments, etc.)  
 $\therefore y = y'$ .  
 (= angles subtend = arcs.)

Q. E. D.

Q. E. D.



GIVEN the radius  $OB$  perpendicular to the chord  $AC$  at  $E$ .

TO PROVE that  $AE = EC$ ,  $AB = BC$ .

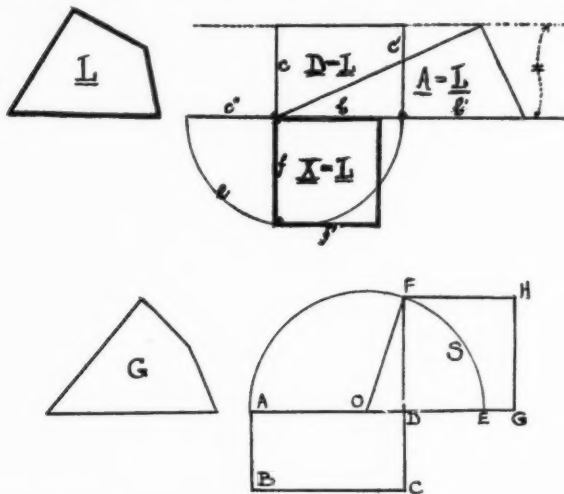
PROOF. Drawing radii  $OA$ ,  $OC$ , then

and  $OA = OC$   
 $AE = EC$ .  
 (= oblique lines cutting off = segments, etc.)  
 $\therefore \angle AOE = \angle EOC$   
 (oblique lines cutting off = segments, etc.)  
 $\therefore AB = BC$   
 (= angles subtend = arcs.)

Q. E. D.

Q. E. D.

4) To construct a square equal to a given polygon.



GIVEN polygon  $G$

REQUIRED to construct a square equal to  $G$ .

CONSTRUCTION. 1) Construct a triangle equal to  $G$ .

2) By drawing a line through the vertex of the triangle parallel to the base and erecting perpendiculars from an extremity and the middle point of the base, construct a rectangle, as  $ABCD$  equal to this triangle

3) Produce  $AD$  to  $E$  making  $DE = CD$ .

Bisect  $AE$  at  $O$ ,

and with the center  $O$ , and radius  $OE$ , describe a semicircle.

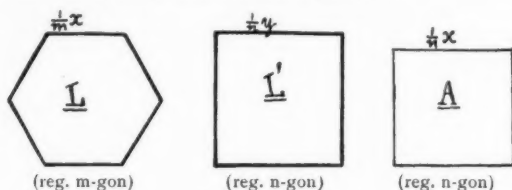
4) Produce  $CD$  to meet the circumference at  $F$  and construct a square on  $DF$ . Then  $DF^2$ ,  $S$  in the figure, is the required polygon.

Q. E. I.





6) Of regular polygons having a given area that which has the greatest number of sides has the least perimeter.



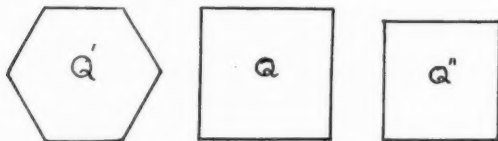
ANALYSIS

(of isoperimetric reg. polyg. the greater-sided has greater area)

$$\therefore L' > A$$

$$\therefore y > x$$

Q. E. I.



Let  $Q$  and  $Q'$  be regular polygons having the same area and let  $Q'$  have the greater number of sides.

TO PROVE the perimeter of  $Q >$  the perimeter of  $Q'$ .

PROOF. Let  $Q''$  be a regular polygon having the same perimeter as  $Q'$  and the same number of sides as  $Q$ .

Then  $Q' > Q''$

(of isoperimetric reg. polyg. the greater-sided has greater area)

But  $Q = Q'$

$$\therefore Q > Q''$$

$\therefore$  perimeter of  $Q >$  the perimeter of  $Q'$

But the perimeter of  $Q' =$  the perimeter of  $Q''$ .

$\therefore$  the perimeter of  $Q >$  the perimeter of  $Q'$ .

Hyp.  
Q. E. D.

To ensure an understanding of the automatic diagrams the following explanatory annotation is added.

1) The heavy lines and letters  $l, m, n$  show that two parallel lines are given and a perpendicular to one of them (shown by the small quadrant).  $X$  shows what is under discussion. As the line  $A_1$  has not yet been drawn there can be no ambiguity about  $X$ .

2) The heavy arcs and the letters  $L, L'$  show that the alternate interior angles are equal. The  $x$  and  $y$  show the elements

under discussion. Had they been marked  $x, x'$  it would have been an assertion of their equality, to be investigated.

3) The heavy lines and the small quadrant assert that we have an arc of a circle, a subtended chord and a radius perpendicular to it; the lettering  $x = x', y = y'$  asserts that the arc and chord are bisected, a proposition presented for investigation.

4) The heavy lines and the underscored  $L$  indicate a given area. The final  $X = L$  shows that an equivalent square is required (sides,  $f = f'$ ). The  $b = b'$  shows the bisection of the base of  $A$ .  $c = c' = c''$  tells its own tale.

5) The heavy lines and the letters  $m, m'$  indicate a given line which is to subtend an angle  $V$  in a required arc  $x$ , the required angle  $Y$  to be equal to a given angle  $L$ . The fact that  $L$  is given in size but in no specified position is shown by the heavy arc and the light sides of  $L$ .  $a_1$  shows that this line is a close accompaniment of the first operation  $A$ , the laying off of an angle equal to  $L$  on the given line.  $b, b_1$  show that the next operation is indifferently the drawing of the perpendicular  $b$ , or the erection of the bisecting perpendicular  $b_1$ .

6) That the two given areas are equal is shown by  $L, L'$ , and that the lengths of the primers is under investigation is shown by the letters  $x, y$ .  $A$  underscored shows that the first operation is to construct a polygon of the same number of sides as  $L'$ , shown by the diagram and by the fact that the side of each is  $\frac{1}{n}$  of the perimeters,  $x$  and  $y$ .

This system of notation sharply separates in the diagram those parts belonging respectively to the Hypothesis, the Construction, and the Conclusion. By reserving the heavy lines for those parts of the Hypothesis which do not belong to the Universe of Discourse, the differentiation can be made still more sharp, viz.: (1°) The Universe of Discourse, light lines and middle letters; (2°) the remainder of the Hypothesis, heavy lines and middle letters; (3°) the Construction, light lines and first letters; (4°) the Conclusion, light lines and latter-letters; or (5°) Required Construction, double lines and latter-letters.

Accompanying this system are a number of unimportant but simple and useful details, which add greatly to the legibility of the diagrams, but which are not really essential to the main features. These may be presented in a future article.

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## BOOK REVIEWS

### RECENT GERMAN TEXT-BOOKS.

*Newson's Modern Language Series.* Three well-printed little volumes: *Newson's First German Book*, *Newson's German Reader*, and *German Daily Life* (with introduction by W. H. Buell).

The first book is based on the well-known Hölzel pictures, "The Four Seasons," widely used in Germany. If an American teacher would learn to use the conversational method, this book, in connection with the reader, will be of great assistance. The reader contains an adequate treatment of inductive grammar, a subject neglected in the first book. The selection for each lesson is a literary unit prepared for the needs of the pupil, many of them dealing with affairs of his own life. The prose consists of short paragraphs, which are well constructed. The poems are well selected, but should be supplemented by a collection of songs like *Damm's Liederbuch*. The questions in each lesson are helpful for digesting the contents and for conversational exercises. The grammar element in the reader trains judgment and independent thinking. The *Aufgaben* ask for free reproduction of the matter read, the most excellent way of acquiring ease and an actual *Sprachgefühl*. The vocabulary, with explanations in full sentences and reference back to the place where word was first used, is another welcome addition.

*The German Daily Life* or its equivalent should be in the hands of every teacher. It contains that which an educated German in his conversation on general topics is likely to use. It is good German, simple in style. Especial attention is called to the conversational phrases and slang. No one can thoroughly appreciate modern Germany or its literature without knowing the contents of this book.

*A German Reader.* With Notes and Vocabulary. By Howard P. Jones, Ph.D. New York: D. Appleton & Co.

The author states in the introduction that he followed the general arrangement of readers compiled some sixty years ago, which were modeled on books used in the schools of Germany. This is certainly true. The selections are the best one could wish to have young people read (with one exception, "Germelshausen"), and the German boy in Germany ought to enjoy the book thoroughly. However, the American beginner, especially in the secondary school, would probably prefer reading-matter with less new vocabulary. The volume contains five thousand and more new words, and the author sees fit to give from thirty to forty footnotes for selections, ten lines and less in length. The vocabulary and notes are faulty in accent and marking of vowels (*cf.* Wald'esdunkel, an'statt, allerlei, Asch'enbrödel, Gertrüd' Gebrech'en, nämlich, A'raber längs), at the rate of two mistakes on each page.

*A German Reader for Beginners.* With an Introduction on English-German Cognates, Notes and Vocabulary. By H. C. O. Huss, Professor of Modern Languages and Literatures in Princeton University. Boston: D. C. Heath & Co., 1900. Pp. 208.

The especial feature of this reader is the attention paid to cognates as a means for acquiring vocabulary. The author says "students will be interested and stimu-

lated, because their reasoning faculties are called into play." There is no doubt that cognates are interesting to the teacher, and to some extent also to the student—in proportion to his age. With the beginner in the secondary school, at the age of fourteen, the imitative and mnemonic faculties are more prominent than the reasoning powers. He can more easily memorize ten words or idioms than think out the cognate of one. And what is more, he can more easily get by heart a few of those charming German folksongs with melodies than do any feats in thinking. It seems, therefore, that too much stress should not be laid on cognates in the beginning.

The selections of both prose and poetry are excellent and well graded, but are not as simple in style and syntax as one would like to give to first-year high-school pupils. The reader on the whole would seem to be better fitted for students who begin German at the age of seventeen or eighteen. The proverbs are a useful addition. The notes are a fine example of the kind of assistance and explanations the pupil needs.

*Glück Auf. A First German Reader.* By Mary Müller and Carla Wenckebach. Boston and London: Ginn & Co., The Athenæum Press, 1901.

*Glück Auf* is a step in the right direction; all beginners in the study of German will feel very grateful to the authors for this little gold mine of good, simple German prose, of lyric gems, and of information on mythical, legendary, and historical Germany. It is a real introduction in every way. The notes, questions on text, and the vocabulary have been prepared with great care, and deserve unqualified praise. How much time should be given to cognates, and how much to conversation and inductive grammar, each teacher must learn by experience. No undue emphasis should be laid on prose introductions to such beautiful poems as "Heidenröslein" and "Du bist wie eine Blume." Any interpretation of such tender creations seems like an encroachment.

*A German Reader and Theme Book.* By Calvin Thomas and William Addison Hervey. New York: Henry Holt & Co., 1901.

This reader has been prepared with great care. Most of the selections are valuable, written in good literary German, and paper and print are the best imaginable. And yet, although the authors mention "free reproduction" in the preface they increase in the themes the amount of translation from lesson to lesson, following the mistake of the Thomas Grammar. "Freie reproduction" should have been more and more emphasized, omitting translation. The book contains 5,500 new words, which fact would show that the book is intended for advanced students of the university age. The accent in the vocabulary has been employed almost too arbitrarily (bisher, beiseite, alsbald), leading to actual mistakes: *Cf. ei' nerlei* (two accents, like *einmal*), *also'*. Quantity should have been marked in all doubtful cases of strong imperfects. *Cf. brach, kröck, glich, roch.*

#### ELEVEN NEW PUBLICATIONS OF D. C. HEATH'S MODERN LANGUAGE SERIES.

One of the most difficult things is to find the proper kind of reading material for a class of beginners that has mastered the essentials of grammar (inductively, of course) and just finished the simple graded reader. Of the eleven new texts before us, Seidel's *Leberecht Hühnchen* (Spanhoofd), Storm's *In St. Jürgen* (Wright), Benedix's *Der Process* (Wells), Benedix's *Nein* (Spanhoofd), and Heyse's *Hochzeit auf Capri* (Bernhardt) seem to be best fitted from the standpoint of contents and diffi-

culty, the two latter having the advantage of being supplied with questions on the text, thus encouraging conversation and free reproduction. Körner's *Zriny* (Holzwarth), Sudermann's *Johannes* (Schmidt), and Hauff's *Lichtenstein*, illustrated (Vogel), are for advanced pupils. The notes at the end are well selected and helpful. No vocabulary is added—certainly a wise omission. The use of a dictionary should be taught and encouraged early. The pupil should learn to be independent and to select judiciously. Zschokke's *Das Wirtshaus zu Cransac* (Joynes), Heyse's *Das Mädchen von Treppi* (Joynes), Heyse's *Niels mit des offenen Hand* (Joynes), and Ely's *Er ist nicht Eifersüchtig* (Wells), although they are easy reading, are less desirable, first, because of their content. They do not deal with German life, and the lovesick, melancholy atmosphere that pervades them is hardly what we want for the classroom. Secondly, those edited by Mr. Joynes are provided with translation exercises, instead of such as will induce conversation and free reproduction.

#### IDEOPHONIC TEXTS FOR ACQUIRING LANGUAGES.

*Wilhelm Tell*. By J. Ch. Fr. v. Schiller. In four Parts: Part I (Act 1). Editorial Critic, George Hempl. New York: Hinds & Noble, 1900.

This is a very proper book for all teachers of German who wish a pleasant introduction to phonetics, as well as a help for self-instruction. The volume is well gotten up. Paper and printing are beautiful. For classroom use *William Tell* is probably the last text which any teacher would select in order to teach his pupils pronunciation, except they be an extraordinarily bright class who are too old to imitate easily the sounds produced by the teacher. If the editors wish these ideophonic texts tried by teachers of beginners, would it not be well to prepare some simple prose or conversational matter?

The sound equivalent for the *g* in *gegen*, *Bergen*, *zeigen* is given as *y* in "ye" instead of *g* in "go," and the vowel elements in German "*Gott*" and English "naught" are represented by the same sound symbol, while they are wholly unlike.

#### FOUR NEW BOOKS FROM HENRY HOLT & CO., NEW YORK.

*Die Braut von Messina* (Arthur H. Palmer and J. G. Eldridge), illustrated; *Goethe's Poems* (Julius Goebel); *Goethe's Reineke Fuchs* (Holman); *Lessing's Hamburgische Dramaturgie* (Harris).

The introductions, arguments, and interpretative notes (in English) of all four of these show fine scholarship and a nice appreciation of the poet's genius. Every advanced student of German ought to enjoy the privilege of studying his classics with the suggestive help of editions like these.

#### TWO NEW BOOKS FROM D. APPLETON & CO.

Schiller's *Die Jungfrau von Orleans*, illustrated (Rhoades); Freytag's *Die Journalisten*, illustrated (Bronson); both with introduction, footnotes, and vocabulary.

We certainly welcome these selections in their present edition and are grateful for the care bestowed upon the preparation. The illustrations of *Die Jungfrau* are very helpful. The light green color of the cloth cover is almost too tender for rough handling in school.

Silver, Burdett & Co.'s Schiller's *Braut von Messina* (Carruth), with portrait of Schiller and three views of Messina.

This book contains an able commentary, notes, subjects for themes, and bibliography. It is printed in clear type on good paper, and bound in a strong, practical, and very neat binding. The commentary and notes are just right, and the subjects for themes suggestive; but one wonders whether the time is not ripe for rendering such additions to a classic in German. By the time that students are far enough advanced to take up such a book as *Die Braut von Messina* the teacher ought to speak German exclusively, and call for themes in German.

The Macmillan Co. brings a new edition of Schiller's *Wallenstein* (Winkler), with 76 pages of introduction and 130 pages of notes and index to persons and places.

A thorough and scholarly treatment of Schiller's great trilogy. One is surprised to see that in spite of all the care spent on this edition, with its fine portraits and map of Germany, and the strong, neat binding, the book sells for only 60 cents.

#### FOUR PUBLICATIONS BY THE AMERICAN BOOK CO.

Groller's *Inkognito* (Lentz), two stories for second- or third-year reading; Schauz's *Der Assistent* (Brinhorn), three stories.

Both these books are without biographical notes, but with translation exercises, footnotes, and vocabularies. This is good reading, but it seems to be a mistake that in the exercises nothing but disconnected English sentences are offered, instead of questions on the text, calling attention to idioms and encouraging free reproduction. The notes might have been more copious, especially in case of difficult grammatical constructions.

Wilbrandt's *Der Meister von Palmyra* (Henckels), with an excellent introduction and notes, for advanced classes, and *Journalistic German* (Prehn), with vocabulary (no notes), for all kinds of students, are splendid additions to the reading material.

#### GINN & CO.

*Edelsteine* (Minckwitz and Unwerth).

Six fine stories by Baumbach, Seidel, and Volkmann-Leander, with biographical introductions, and carefully prepared notes and vocabulary.

Charlotte Niese's *Aus dänischer Zeit* (Fossler), with introduction and notes. A good book for intermediate reading.

Storm's *Immensee* (Minckwitz and Wilder), with introduction, notes, and vocabulary.

A beautiful edition of this well-known poetic melancholy prose work of Storm. The personal note in the introduction is charming.

*Maria Stuart* (Müller and Wenckebach), with an up-to-date introduction, notes, and developing questions about the drama, all in German.

It is encouraging to see a thirty-page introduction and forty pages of notes given in simple German, an advantage which should not be lost sight of by other editors.



Longmans, Green & Co. offer *Deutsche Sagen*, a Course of German Reading, with Vocabulary (Gribler).

This book is a good reader for beginners, giving in easy German the contents of the prose and poetic legends of the tenth to the sixteenth century. Since the contents of the book are so well prepared, it is deplorable to see that the vocabulary has been neglected. We find there, for example, "*sei*, was, had, be; *sein*, his, her, be; *umfängt*, embrace; *überliess*, left, abandoned; *worden*, been." Is not this sort of giving equivalents altogether too mechanical, encouraging unscholarly habits?

ERICH MÜNTER.

UNIVERSITY SECONDARY SCHOOL,  
Chicago.

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*The Training of Teachers and Methods of Instruction.* By S. S. LAURIE.  
The Macmillan Company, 1901. 295 pp. \$1.50.

THE addresses and essays grouped under this title make a good presentation of Professor Laurie's educational doctrine. The discussion of the advisability of establishing chairs of education in universities brings out his views regarding, not only the aim of education, but also the preparation of the teacher. Out of his analysis of these two, he finds the philosophy, art, and history of education must so be studied by the future teachers as to develop a scientific habit of mind in their thinking on the subject of education.

An explanation of the three senses in which "sympathy" is used affords the author opportunity to say some very direct things about the "sympathetic sentimentalist among teachers:" "There are many good instincts in him running to seed. He requires bracing up." He speaks of "the pawing of the tender mind by well-meaning pedagogic moralists." He would bring the teaching body to some conception of sympathetic intuition by having them make a "conscious study of those mental processes which the born teacher intuitively feels and unconsciously practices."

The positive stand taken on the subject of the primary school shows Professor Laurie fearless in his denunciation of wrong to the finer spirits in the lower social class. He does not argue for the higher education of all; only, for "the finer and more ambitious spirits."

The attitude toward manual training and science is unique. It is that of one who has made a turn away from purely classical training, and then rests content in the simplest form of the new. The new is not investigated as material to be treated scientifically. After admitting the value of hand-work in primary education, *i. e.*, drawing for boys and needlework and cooking for girls, he protests vigorously against giving to manual training time that has been heretofore allotted to book-work. He finally waxes warm and asks: "Can we be expected to restrain our laughter when we see it stated by a hand-enthusiast in America that one hour of carpentering will do more for a boy's intellect than three hours of Sophocles?" He would keep out of the primary school the "thumb educationalist," and those who would teach science instead of literature and history.

The papers on "Geography in the School" and "History and Citizenship in the School" are very suggestive. It is worth while to attempt answering the question as to the reason why so keen a thinker becomes badly entangled in his thought, on pages

255 and 259, simply because he has emphasized the idea of adaptation of teaching to the age of pupils. In these addresses and essays, as in all of Professor Laurie's writings, the diction is worthy of the subject.

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*An Ideal School.* By PRESTON W. SEARCH. D. Appleton & Co. 357 pp.

THERE are two dominant ideas in this projection of an ideal school: the necessity for a joyous, healthful physical life for children; the possibility of classifying children so that the extremes of ability in any group shall be almost identical. The writer, unfortunately, adopts the exhortatory and declamatory style which is affected by many lecturers in institutes for elementary school teachers. The most effective parts in the treatment of the leading ideas lie in the descriptions of the Abbotsholme, l'École des Roches, and other schools which are making the establishment of health among children an essential in their programs; and also, in the accounts of the methods pursued by various teachers who are making the development of the individuality of each child the central thought in their work.

Although the subjects in the curriculum are written up, the point of view is largely that of the old school. The psychology of the various subjects taught, particularly of mathematics, has not been considered by the author.

At present, no treatment of high-school children is possible without a few paragraphs or pages devoted to adolescence. The quotations on this subject are good, but the reader cannot help wondering what is the ideal of elementary education in the philosophy of those who see the necessity for activity first looming up in the high school. What about activity all through the school life?

Another minor question which receives attention is that of co-education. At first the author thinks that co-education between the ages of thirteen and seventeen is "a debatable question." It would be interesting to note the different ages and lengths of period in which co-education is "a debatable question" with different separatists. However, Mr. Search does not continue his discussion of separation very long. His understanding of boys and girls is so sympathetic that he finds it impossible to maintain his attitude of doubt in regard to co-education, and he finally concludes that "It is far better to have a boy's conception of girlhood colored by contact with the noble average girl of the school than by his riotous imagination or some exceptional suggestion."

The concluding chapter is a plea for the private endowment of an elementary and secondary ideal school. It is passing strange that the endowment in 1899 of the Chicago Institute, in which Colonel Parker was to be the moving spirit, entirely escaped the notice of Mr. Search, whose book appeared two years later.

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*Mental Growth and Control.* By NATHAN OPPENHEIM, M.D. The Macmillan Company, 1902. Pp. 289 + viii.

A DISTINGUISHING characteristic of the medical doctor is a fondness for reflecting on ethical questions. The fundamental in this act is always of a psychological nature. As a rule, the physician is readier in discussion of questions bearing on mental activity than on bodily structure or function when speaking to the general public. Ethics and psychology are related to physiology, but the doctor whose business in life is caring for the body treats the problems in their domain in a somewhat dilettanteish

fashion. So necessary is the combination of the scientist and the dilettante in the man or woman who prescribes for one's physical ills that it is safe to assume a vital weakness in your physician if he has not time to think about the whole nature of the human being. As one reads this book one's appreciation of the important part the physician plays in the ethical life of the community is increased. The table of contents is direct and clear. The questions are fundamental in a study of the subject of mental growth and control.

One concludes the reading of the chapter on "The Mind as a Machine" with the same query which suggests itself in regard to chapters on the brain and the nervous system in the small manuals of psychology and of physiology. The query is whether it would not be better to have much less, or possibly nothing, on the anatomy and physiology of the brain and the nervous system if the writer cannot have sufficient space to treat those subjects so that the reader will have more than a sketchy acquaintance with them. The reasoning is not clear by which the author arrives at the statement that while there may be fear and confusion in the mind of a reader upon learning that a certain activity originates in the island of Reil, but if he knows that the island is only a number of intuned convolutions in the fissure of Sylvius the statement will be accepted "with confidence and peace of mind."

Instinct is discussed from the popular, not the scientific, point of view. The great distinction between instincts and impulses is ignored or possibly unknown to the author. There is, at last, a cumulative use of the terms on page 104, where we read about instinctive impulses. There are many instances in which the confusion in thinking is due to the attempt to cover the field of ethics in what might be termed ethical psychology. We have books on educational psychology, and they sometimes undertake to cover all of the questions that arise in education.

The moralizing on the will reaches high-water mark at times. There are many good suggestions that emanate from the practice of the medical doctor, but the definition of the will as "the conscious choosing of an idea or course of action out of a great number of possible ideas or courses" fails to present the idea of a functioning of the mental content based on experience. It is debatable whether "in irritation or fatigue the will slips away from a pliable and intelligent control."

These minor criticisms are induced by the defective psychology, not faulty ethics of the author. The publishers will attain their expressed aim in issuing the series of which this book is the second number if the other volumes are equal to this.

ELLA F. YOUNG.

THE UNIVERSITY OF CHICAGO.

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#### BOOKS RECEIVED.

The Negro Common School. By the Sixth Atlanta Conference. Edited by W. E. Burchardt DuBois, corresponding secretary of the conference. Size 6x8½. Pp. 120. Price (paper) 25 cents. Atlanta: University Press.

This is a very valuable book to the person interested in educational and social problems in the South. The work of this conference is constructive and merits hearty support; the investigation into the actual conditions in the negro schools has been carried on in a thorough and systematic manner and the revelations in this report

justify the appeal of Mr. DuBois and his colleagues for immediate material assistance in their great work. The motto of the conference has been lived up to—"We study the problem that others discuss."

A University Text-Book of Botany. By Douglas Houghton Campbell, Leland Stanford Junior University. Size 6×9. Pp. 579. Price \$4.00. New York: The Macmillan Company.

We hope to publish a comprehensive review of this great work in our next issue.

A Laboratory Manual of Botany. By Otis W. Caldwell, Eastern Illinois State Normal School. Size 5×7½. Pp. 107. New York: D. Appleton & Company.

This book is not intended to displace any "Botany," but supplements the work on the laboratory side by giving certain definite suggestions that will aid the pupil in his work and encourage him without discovering everything for him. It is based on sound educational principles and ought to attain the desired object which the author describes as, "to make the study of botany full of meaning, of pleasure and of profit to the young people who are to study the subject; to lead them to observe constantly and accurately; to form well founded judgments from their observations; to inspire them with an intelligent and abiding love for nature; and to have them see and appreciate the ways in which the lives of plants are allied to their own lives."

Nature Study and Life. By Clifton F. Hodge, Clark University. Size 5×7. Pp. 514. Mailing price \$1.65. Boston: Ginn & Company.

The publishers do not overstate the merits of this book when they say that it is "one of the most notable nature study books now published." The emphasis is upon *nature*, not upon *study*, and life is never sacrificed to some fancied correlation or some narrow scientific application. The illustrations are singularly felicitous in that they show us not only nature, but human nature in the persons of interested girls and boys. This is a book for the home as well as for the school. It is scientific in its knowledge, simple in its phraseology, and fascinating in its style.

Grammar School Geography. By Alexis Everett Frye. Size 10×12. Pp. 195. Price \$1.45. Boston: Ginn & Company.

This is a new edition of the geographies that improve with each new edition. In no subject in our curriculum has more marked improvement been shown in the material equipment than in this. The illustrations and maps are exceptionally good. Education and the Larger Life. By C. H. Henderson. Size 5×8. Pp. 386.

Price \$1.30. Boston and New York: Houghton, Mifflin & Company.

Mr. Henderson became well known to the educational public a few years ago by the interesting series of articles on manual training that appeared in the *Popular Science Monthly*. He is an idealist and an optimist and in this book has gathered some ten essays upon different phases of education.

Mr. Henderson always writes in an interesting style and one rises from the perusal of this book with the feeling that "every prospect pleases." It is inspirational, suggestive and hopeful.

Petronius Cena Trimalchionis. Edited with introduction and commentary by William E. Waters, Professor in New York University. Size 5×7. Pp. 143. Boston: Benj. H. Sanborn & Co.

New Century Readers, Nature, Myth and Story, third year, by John G. Thompson, and Thomas E. Thompson. Size  $5\frac{1}{2} \times 7\frac{1}{2}$ . Pp. 205. Price 39 cents. New York: The Morse Company.

This is an attractive reader of good selections and well illustrated.

Waverley or 'Tis Sixty Years Since. By Sir Walter Scott. Edited by Archibald L. Bouton, New York University. Size  $5 \times 7$ . Pp. 223. Price 20 cents. New York: University Publishing Company.

American Literature. By Julian W. Abernethy, Principal Berkeley Institute, Brooklyn. Size  $4\frac{1}{2} \times 7$ . Pp. 510. Price \$1.10. New York: Maynard, Merrill & Co.

This book is specially rich in references, is well illustrated and is free from the fault of undue emphasis upon details of the lives of the authors treated. The place for a history of American literature in our high schools has yet to be determined and this book may be a means of solving it.

Der Traum, ein Leben. By Franz Grillparzer. Edited by Edward Stockton Meyer, Western Reserve University. Size  $5 \times 7$ . Pp. 128. Price 60 cents. Boston: D. C. Heath & Co.

Le Morceau de Pain et Autres Contes. By Francois Coppée. Edited by G. Castegnier. Size  $5 \times 6$ . Pp. 95. Price (paper) 25 cents. New York: William R. Jenkins, 851 6th Avenue.

Scientific Sloyd. By Anna Molander. Size  $5 \times 6\frac{1}{2}$ . Pp. 63. Price 50 cents. Syracuse, N. Y.: C. W. Bardeen.

This is an interesting little monograph in which are given the details of an original system founded on geometrical principles. In the first part the author enunciates the general principles, and in the second the application to the various grades of our elementary schools.

The Sermon on the Mount—Its Literary Structure and Didactic Purpose. By Benjamin W. Bacon, Yale University. Size  $4\frac{1}{2} \times 6\frac{1}{2}$ . Pp. 262. Price \$1.00. New York: The Macmillan Company.

## NOTES

### THE NATIONAL EDUCATIONAL ASSOCIATION.

THIS year it is Minneapolis, Minn., that is to be invaded by the educational hosts, and the committee of arrangements has an exceptionally good program of side trips for the touring teacher. Mr. Irwin Shepard, of Winona, Minn., will gladly send the official program-bulletin, which gives a detailed account of railway rates, the Pacific Coast excursions, the Colorado and Utah excursions, those to Yellow Stone Park, the Canadian Rockies and Kootenai, Montana, Sault Ste. Marie, Duluth and Superior, North Shore and South Shore, the Natural History excursion, the Geographical and Geological excursion, and many others to places of minor importance. The convention will be in session from July 7 to 11, with headquarters at the West hotel. The bulletin contains also hotel tariffs, and the people of Minneapolis expect to provide for a very large attendance, thus maintaining their reputation for hospitality. The following is the program arranged for as we go to press (May 12).

#### GENERAL SESSIONS.

##### TUESDAY AFTERNOON, JULY 8.

Addresses of Welcome—His Excellency Hon. S. R. Van Sant, Governor of Minnesota; Hon. J. W. Olson, state superintendent of public instruction, St. Paul, Minn.; Hon. A. A. Ames, Mayor of Minneapolis; Superintendent Chas. M. Jordan, city schools, Minneapolis; President Cyrus Northrop, University of Minnesota, Minneapolis.

Responses—Superintendent James A. Foshay, city schools, Los Angeles, Calif.; Dr. Theodore B. Noss, principal of State Normal School, California, Pa.; Dr. Joseph Swain, president of Indiana University, Bloomington, Ind.

##### TUESDAY EVENING.

Presidential Address—"The Three H's in Education," W. M. Beardshear, president of the National Educational Association, Ames, Iowa.

"Some Pressing Problems," Dr. Nicholas Murray Butler, president of Columbia University, New York city.

##### WEDNESDAY EVENING.

"The Library and the Laboratory; a Plea for Old-Fashioned Education," Dr. John Henry Barrows, president of Oberlin College, Oberlin, Ohio.

"Influence and Responsibility of the Teacher," Rt. Rev. John Ireland, Archbishop of St. Paul, St. Paul, Minn.

##### THURSDAY MORNING.

"The Education of the American Farmer," Hon. James Wilson, U. S. Secretary of Agriculture, Washington, D. C.

"Higher Education and the Home," Mrs. Carrie Chapman Catt, New York city.

"Education in the Philippines," Dr. Jacob Gould Schurman, president of Cornell University, Ithaca, N. Y.

#### THURSDAY EVENING.

Social Evening. Reception at the State University—State and Department Receptions.

#### FRIDAY MORNING.

"How the School Strengthens the Individuality of the Pupil," Hon. Wm. T. Harris, commissioner of education of the United States, Washington, D. C.

"The Simplification of English Spelling a Present Duty," Charles Payson Gurley Scott, etymological editor of the *Century Dictionary*, Philadelphia, Pa.

"The Spoken Word," Thomas Clarkson Trueblood, professor of elocution and oratory, University of Michigan, Ann Arbor, Mich. Discussion—Carroll Gardner Pearse, superintendent of city schools, Omaha, Neb.

#### FRIDAY EVENING.

Address—Dr. John Huston Finley, formerly president of Knox College, now professor of politics, Princeton University, Princeton, N. J.

The number of General Sessions has been reduced from eight to six. Wednesday morning is assigned to the Departments in order to relieve the crowded schedule of department meetings which has prevailed in recent years. Thursday evening is set apart as the Social Evening in recognition of the growing demand for state and department receptions and other social gatherings, which have constituted such a valuable and pleasant feature of the recent conventions.

It is proposed that all appointments for receptions shall be limited to this evening, and thus avoid infringement on the time of the general or department sessions of other days.

The Commercial Club of Minneapolis, the Faculty of the State University, and the teachers of Minneapolis will tender the convention members a reception at the Armory of the University on Thursday evening. The various buildings will be lighted and open for inspection, and the beautiful campus overlooking the Mississippi river and the Falls of St. Anthony, especially that portion occupied by the "Varsity Oaks," will be brilliantly illuminated. This reception will occupy the early evening, leaving ample time for such state, department, and other receptions as may be announced.

### THE NATIONAL COUNCIL.

#### MONDAY, JULY 7.

9:30 A. M.—"Taxation as it Relates to School Maintenance," Nathan C. Shaeffer, state superintendent public instruction, Harrisburg, Pa.

"Taxation and Teachers's Salaries," Albert G. Lane, district superintendent of schools, Chicago, Ill. Discussion opened by J. M. Greenwood, superintendent of schools, Kansas City, Mo.

2:30 P. M.—"The Function of Knowledge in Education," Charles B. Gilbert, superintendent of schools, Rochester, N. Y.

"The Difference Between Efficient Causes and Final Causes in Controlling Human Freedom," William T. Harris, U. S. Commissioner of Education," Washington, D. C. Discussion opened by John W. Cook, president Northern Illinois State Normal School, De Kalb, Ill.

8:00 P. M.—"The Educational Progress of the Year," William Rainey Harper, president University of Chicago.

## TUESDAY.

9:30 A. M.—"The School as a Culture Center, in the Light of the 'Hesperia Movement,'" D. E. McClure, Lansing, Mich.

"The Social Aspect of Education," John Dewey, head of the Departments of Philosophy and Education, University of Chicago. Discussion opened by Ossian H. Lang, editor *The School Journal*, New York city.

## WEDNESDAY.

3:00 P. M.—Memorial Session.—*Charles C. Rounds*, Henry Sabin, Des Moines, Ia.; B. C. Gregory, superintendent public schools, Trenton, N. J. *Francis Wayland Parker*, Wilbur S. Jackman, dean of the School of Education, University of Chicago.

## DEPARTMENT OF KINDERGARTEN EDUCATION.

## WEDNESDAY FORENOON.

Address of Welcome—D. L. Kiehle, professor of pedagogy, University of Minnesota. *Topic—"Language in Relation to the Work of the Kindergarten."*

"Hindrances to the Development of Language," Miss Cecilia Adams, supervisor of Kindergartens, Denver, Colo.

"How Froebel Planned to Foster the Child's Powers in Language."

"The Need of Kindergarten Students for Work in English," Miss Mary C. May, director of kindergarten, State Normal School, Salt Lake City.

## DEPARTMENT OF ELEMENTARY EDUCATION.

## THURSDAY AFTERNOON.

*Joint Session with Department of Kindergarten Education.*

"Practical Value of Teaching Agriculture in the Public Schools," Joseph Carter, superintendent of schools, Champaign, Ill.

Myth and History—"The Use and Limits of Each," Miss May H. Prentice, teacher of History of Education, Normal Training School, Cleveland, Ohio.

## FRIDAY AFTERNOON.

"The Use and Danger of Method," W. A. Millis, superintendent of schools, Crawfordsville, Ind. Discussion by J. C. Wooten, superintendent of schools, Paris, Texas.

"Age as Related to Character Building," John H. Hinemon, superintendent of schools, Pine Bluff, Ark.

## DEPARTMENT OF SECONDARY EDUCATION.

## WEDNESDAY FORENOON.

Introductory Address by the President, J. Remsen Bishop, principal Walnut Hills High School, Cincinnati, O.

"Studies for Adolescents," R. G. Boone, superintendent of city schools, Cincinnati, O.

## THURSDAY AFTERNOON.

"Education in New England in the Seventeenth and Eighteenth Centuries," Professor John William Perrin, Western Reserve University, Cleveland, O.

Principals's Conference—Topic, School Athletics—Leader, W. J. S. Bryan, principal of High School, St. Louis, Mo.



A conference in science will be held in connection with the Department of Science Instruction in the lecture room of the Chemical Laboratory at the University.

#### DEPARTMENT OF HIGHER EDUCATION.

##### WEDNESDAY AFTERNOON.

- "Education for Professional Life and Work," Prof. R. H. Thurston, Cornell University, Ithaca, N. Y.
- "Should Entrance to College be through Examination of the School, or of the Pupil?" Edwin G. Dexter, professor of education, University of Illinois, Champaign, Ill.
- Report of the Commission on Accredited Schools—presented by George N. Carman, director of Lewis Institute, Chicago, secretary of the Commission.

##### FRIDAY AFTERNOON.

- "The Future of Greek in American Schools," Professor J. Irving Manatt, Brown University, Providence, R. I.
- "Education in the Appreciation of Art," William Bayard Craig, chancellor of Drake University, Des Moines, Iowa.

#### DEPARTMENT OF NORMAL SCHOOLS.

##### WEDNESDAY FORENOON.

*Topic—"The Relations of the Heads of Departments to the Training School."*

Thesis I. The Unity of the Normal School demands—

1. That heads of departments, critics, practice-teachers, students—all shall feel that the children are the center of interest.
2. That it be recognized that the departments exist only that teachers may be prepared to work with the children.
3. That the general doctrine of instruction and management as taught in the department of pedagogy, and the special method of each subject, as presented in its department may agree with the practice of the Training School.

Thesis II. To establish this unity—

1. Heads of departments should prepare the course of study in the Training School, subject to revision by the head of the school—
  - a. This course is primarily to represent the doctrine of the department.
  - b. This course is to be revised from time to time in the light of the experience of the Training School.
2. Heads of departments should co-operate with critics to carry out the work of their departments—
  - a. By explaining to them the methods and plans of the departments.
  - b. By counseling and advising with critics in regard to difficulties that are revealed in the course.
  - c. By assisting in the supervision of practice-teachers—
3. Heads of departments should assist practice-teachers—
  - a. By suggesting material for lessons.
  - b. By counseling with them in the preparation of lesson plans.
  - c. By systematic visitation and criticism.
4. Heads of departments should teach in the Training School—
  - a. At least once a year, a regular class for a period of one term.
  - b. Special lessons to exemplify particular points in method or particular topics.

Theses to be maintained by President David Felmley, State Normal University, Normal, Ill. Discussion led by A. P. Hollis, principal of Training Department, State Normal School, Valley City, N. D.

THURSDAY AFTERNOON.

"Defects in the Normal Schools that are responsible for the opposition and criticism urged against them in many parts of the United States," President H. H. Seerley, State Normal Schools, Cedar Falls, Iowa.

DEPARTMENT OF SUPERINTENDENCE.

THURSDAY AFTERNOON, JULY 10.

Round Table Conference of State and County Superintendents—Leader, Mrs. Helen L. Grenfell, state superintendent of public instruction, Denver, Colo.; Secretary R. C. Barrett, state superintendent of public instruction, Des Moines, Iowa.

Topics for discussion—(a) "Value of Nature Study in Public Schools;" (b) "State Reciprocity in Licensing Teachers;" (c) "To what Extent should Manual Training be Introduced in Rural Schools;" (d) "School Maintenance; how best Provided for?" (e) "Should the State Teachers's Reading Circle Work be made Compulsory?"

DEPARTMENT OF MANUAL TRAINING.

WEDNESDAY FORENOON.

*Topic—"Shop-work in the Elementary Schools."*

"From Doing to Thinking in the Shop," A. W. Richards, Workingman's School, New York city.

"The Field of the Shop-work Construction in Elementary Schools," J. E. Painter, supervisor of Manual Manual Training, city schools, Minneapolis, Minn.

THURSDAY AFTERNOON.

*Joint Session of Art and Manual Training Departments.*

"Possibilities of Art Education in Relation to Manual Training," Ernest E. Fenellosa.

"Practical Co-operation Between Art and Manual Training Instruction." Discussion led by W. H. Hatch, superintendent of schools, Oak Park, Ill., and A. D. Kennedy, instructor in art, Township High School, LaSalle, Ill.

FRIDAY AFTERNOON.

Round Table Conference—Topic, "The Relation of Home Economics to Science in the High School."

DEPARTMENT OF ART EDUCATION.

WEDNESDAY AFTERNOON.

"Art as an Educational Factor," James L. Hughes, inspector of schools, Toronto, Ontario, Canada.

"Elementary Preparation in Drawing for Secondary Schools: What may Reasonably be Expected," Clarence Valentine Kirby, teacher of art, High School, Denver, Colo.

"Sense Training and the Aesthetic," Miss Lucy S. Silke, assistant special teacher of drawing, city schools, Chicago, Ill.

## DEPARTMENT OF BUSINESS EDUCATION.

## WEDNESDAY AFTERNOON.

President's Address—I. O. Crissy, state inspector of Business Education, Board of Regents, Albany, N. Y.

"Are Business Courses in Public Schools Inimical to Education?" A. B. Winship, editor *Journal of Education*, Boston, Mass.; Durand W. Springer, director commercial department, High School, Ann Arbor, Mich.

"Object of Business Courses in Public Schools," William McAndrew, principal public school 44, Brooklyn, N. Y.

"Length and Content of Commercial Courses in Public Schools," William E. Doggett, assistant principal Commercial High School, Brooklyn, N. Y.

"At What Age should the Student begin the Business Subjects, (a) When expected to complete a Four Year Commercial Course in a High School, (b) When not expected to Complete such a Course?" J. H. Francis, principal Commercial High School, Los Angeles, Cal.

## THURSDAY AFTERNOON.

Open Conference Meeting of the Committee of Nine—D. W. Springer, chairman.

NOTE—This meeting is called specially for the purpose of enabling the committee to obtain the suggestions and advice of college professors, superintendents, and principals of schools, members of school boards and others interested in business education, on questions concerning the work assigned to this committee, viz.: to prepare a monograph on commercial education which shall formulate an efficient code of procedure for the conduct of such education in American public schools.

## FRIDAY AFTERNOON.

"The Preparation of Commercial Teachers for Work in the Public Schools," B. H. Meyer, acting director School of Commerce, University of Wisconsin, Madison, Wis.

"Requirements for Actual Business," George A. Booth, The Booth Preparatory School, New Haven, Conn.

"What shall the Public Schools do for the Commercial Student, and What for the Business Man Wanting Help in his Office?" H. M. Rowe, accountant, author and publisher, Baltimore, Md.

"A Practical Commercial Course for a Massachusetts High School," E. E. Gaylord, director, commercial department, Beverly High School, Beverly, Mass.

"The Education of an Amanuensis," Charles M. Miller, principal The Miller School, New York, N. Y.

"Report of the Committee of Nine," D. W. Springer, chairman. General discussion; action on report.

## DEPARTMENT OF CHILD-STUDY.

## WEDNESDAY AFTERNOON.

"New Lines of Attack in Child-Study," Frederick E. Bolton, Department of Education, University of Iowa, Iowa City, Ia.

"The Child-Study Department of the Chicago Public Schools," Miss Angeline Loesch, volunteer assistant Chicago Child-Study Department, Chicago, Ill.

"What our Schools Owe to Child-Study," Theo. B. Noss, principal Southwestern State Normal School, California, Pa.

## FRIDAY AFTERNOON.

"Physiology of the Nervous System in Childhood as Applied to Education," R. O. Beard, professor of Physiology and Dietetics, University of Minnesota, Minneapolis, Minn.

"How Far Does the Modern High School Fit the Nature and Needs of Adolescents?" Reuben Post Halleck, principal Boys High School, Louisville, Ky.

## DEPARTMENT OF SCIENCE INSTRUCTION.

## WEDNESDAY AFTERNOON.

Opening Address.

Paper on Biology.

"The Value of Museums in Secondary Education," Oliver C. Farrington, Field Columbian Museum, Chicago, Ill.

## FRIDAY AFTERNOON.

"Laboratory Courses in Physics," Frank M. Gilley, High School, Chelsea, Mass.

"Physiography in Secondary Schools," J. A. Merrill, teacher of science, State Normal School, Superior, Wis.

"Scientific Work of our Government and its Influence in Secondary Education."

## DEPARTMENT OF SCHOOL ADMINISTRATION.

## THURSDAY AFTERNOON.

President's Address — Israel H. Peres, president of the department, Memphis, Tenn.

"The School Board and the Press," J. E. Spiegel, president school board, Greensburg, Pa.

"Women School Board Members," John B. Stoll, president school board, South Bend, Ind.

"The Real Function of the School Board," Dr. F. H. Little, president school board, Muscatine, Ia.

## FRIDAY AFTERNOON.

"The Ideal Teacher," Miss Anna Doerfler, principal Eighth District School, Milwaukee, Wis.

"Manual Training," Calvin M. Woodward, member school board, St. Louis, Mo.

"Progress in Centralization of Rural Schools," J. W. Olsen, state superintendent of public instruction, St. Paul, Minn.

## LIBRARY DEPARTMENT.

## THURSDAY AFTERNOON.

"The Library as an Educator," W. A. Millis, superintendent of schools, Crawfordsville, Ind.

"Libraries and Schools; a double faced Question," Miss Emma J. Fordyce, teacher of literature, High School, Cedar Rapids, Iowa.

"Greeting from the American Library Association," Anderson H. Hopkins, John Crerar Library, Chicago, Ill.

## FRIDAY AFTERNOON.

"What may the School Properly Demand of the Library?" J. M. Greenwood, superintendent of schools, Kansas City, Mo.

"School Libraries in the Rural Districts," Miss Agnes Robertson, superintendent of schools, Cherokee, Iowa.

## NOTES

### DEPARTMENT OF SPECIAL EDUCATION.

#### WEDNESDAY AFTERNOON.

Address of Welcome—Dr. C. M. Jordan, superintendent of schools, Minneapolis, Minn.

President's Address—Dr. Alexander Graham Bell, president of the department, Washington, D. C.

"Lessons to be Learned by the General Teacher from Teaching Language to the Deaf," F. W. Booth, editor *Association Review*, Mt. Airy, Philadelphia, Pa.

"What Minnesota is doing for the Education of Blind and Deaf Children and Children of backward Mental Development," The Minnesota Institutions.

"A Comparison of Kindergarten Methods for the Deaf and the Hearing Child," Miss Mary McCowen, supervising principal Chicago Day Schools for the Deaf, Chicago, Ill.

"What can we do to Facilitate the Instruction of Children in the Public Schools who have Defective Faculties?" Discussion to be followed by resolutions of recommendation on the subject.

#### FRIDAY AFTERNOON.

"Some Lessons for the General Teacher to be Learned in Teaching the Blind," William B. Wait, superintendent New York Institution for the Blind, New York city.

"Importance of giving Special Instruction in Lip-reading to Children of Defective Hearing in the Public Schools." General discussion.

"The Special Work of Teaching the Blind," E. E. Allen, superintendent Pennsylvania Institution for the Blind, Overbrook, Pa.

"Mental Arithmetic as Taught to the Blind, with applications to the Instruction of Normal Children in Public Schools." Discussion.

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## NOTES

- "How to Correct Defective Speech in Public School Children." Discussion led by Dr. Alexander Graham Bell, president of the department.
- "The Organization of Associations of Parents of Deaf Children as an Aid to Schools." Discussion led by Mrs. Charles R. Crane, president of the Chicago Association of Parents of Deaf Children.
- "Drawing as a Means of Expression." Discussion.

### DEPARTMENT OF INDIAN EDUCATION.

#### MONDAY AFTERNOON.

- President's Address—S. M. McCowan, superintendent Chilocco Indian School, Oklahoma.
- Address—G. R. Glenn, state school commissioner, Atlanta, Ga.
- Address—L. D. Harvey, state superintendent of public instruction, Madison, Wis.
- Address—Lieutenant Colonel R. H. Pratt, superintendent Carlisle Indian School, Pennsylvania.
- "The Teaching of Agriculture with Reference to Future Employment." L. M. Compton, superintendent Tomah Indian School, Wisconsin.
- "Drawbacks to Indian Civilization and Citizenship," DeWitt S. Harris, superintendent Pipestone Indian School, Minnesota. Discussion led by H. G. Wilson, superintendent San Carlos Indian School, Arizona.
- "How to Teach the Indian Boys and Girls to Become Home-makers, Especially from an Agricultural Standpoint," R. D. Shutt, industrial teacher, Tulalip, Wash.

#### TUESDAY MORNING.

- Address—Hon. W. T. Harris, U. S. Commissioner of Education, Washington, D. C.
- Address—Nicholas Murray Butler, president Columbia University, New York.
- Address—Alfred Bayliss, state superintendent of public instruction of Illinois.
- Address—Rt. Rev. John Ireland, Archbishop of St. Paul, St. Paul, Minn.

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# NOTES

- "How can the Indian Child be made to Feel that His Training Cost Something?" H. B. Peairs, superintendent Haskell Institute, Kansas.
- "The Need of Home Societies for the Encouragement and Protection of Indian Young Men and Women," J. C. Hart, superintendent Oneida Indian School, Wisconsin.
- "Sanitation," J. S. Perkins, superintendent Truxton Cañon Indian School, Arizona.
- "Opportunity and Judicious Direction for the Indian," C. W. Crouse, agent, Fort Apache, Arizona.
- "Class-room Work as Outlined in the Course of Study," Mrs. J. C. Hart, principal teacher Oneida Indian School, Wisconsin.

## WEDNESDAY MORNING.

- Address—Z. X. Snyder, president, State Normal School, Greeley, Colo.
- Address—Miss Louise Klein Miller, Dayton, Ohio.
- Address—Miss Alice Robertson, supervisor, Creek Nation, Indian Territory.
- Paper—J. Franklin House, supervisor of Indian Schools.
- "The Value of a Large Agricultural School to the Indian Service," S. M. McCowan, superintendent Chillico Indian School, Oklahoma.
- "Correlation of Schoolroom and Farm Work," E. C. Nardin, superintendent Mt. Pleasant Indian School, Michigan.
- Paper—E. A. Allen, assistant superintendent Carlisle Indian School, Pennsylvania.
- "Should there be a Limit to the Number of Pupils Attending an Indian School," R. A. Cochran, superintendent Rice Station Indian School, Arizona.
- "Advisability of having Schools of Moderate Size in order that Pupils may receive more Individual Training," H. M. Noble, superintendent Grand River Indian School, North Dakota.

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## NOTES

THURSDAY AFTERNOON.

Address—N. C. Dougherty, superintendent of schools, Peoria, Ill.

Paper—A. O. Wright, supervisor of Indian Schools, Washington, D. C.

"Best Method of Effecting Transfers of Pupils," A. J. Standing, Carlisle, Pa.

"To what extent do Agents and Superintendents read the Rules and Regulations?"

Thomas W. Potter, superintendent Salem Indian School, Oregon.

"What steps should be Taken to bring Tuberculosis under Control and to Prevent, as far as Possible further Infection?" Dr. J. G. Bulloch, Cherokee, N. C.

"The Value of Day Schools," James J. Duncan, inspector, Pine Ridge, S. D.

"The Necessity for Books Especially Adapted to Indian Children," Claude C. Covey, teacher, Pine Ridge, S. D.

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